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Go for the GOLDENS

By Carol Roller

Who says "geranium" leaves have to be green? There are white edged leaves, marbled leaves, variegated leaves with splashes or patterns in shades of red, brown, purple, yellow and contrasting green. Why not gold leaves? Indeed, there is a little known group of zonal pelargoniums with golden leaves.

The first of the goldens appeared spontaneously from green leaved plants. One of the earliest was 'Marechal MacMahon' (1872). It is not really golden by today's standards and the florets are small, but it was an exciting innovation in its time. 'Mrs. Quilter' (1880) and 'Jubilee' (about 1890) are of the same type. The base color is a greenish yellow with a broad zone. As in other zonals, the leaves are soft to the touch. They are easy to grow, a natural for anyone who needs a faultless performance, albeit not an inspired one. An early golden of dwarf habit is 'Golden Harry Hieover' (about 1880), which is sometimes seen as 'Alpha'. It was a new form, possibly with some ivy leaved heritage. This little champion has small, shiny, golden leaves with a bronze zone. It is an excellent bedding plant or cascade. Although the flowers are primitive, they are bright red and abundant. Its sport, 'Pink Harry Hieover is not as eyecatching because of its soft colored blooms.

These oldtimers continued to be grown, but there was no special interest in the goldens until the 1960's when several hybridizers introduced an assortment of plants which are infinitely superior to the originals. By the 1970's these had been used to produce a full scope of zonals. Most are compact in habit. The leaves may be large or dainty, some with contrasting zones, others solid. The color is truly golden. The flowers are fabulous — large, in full umbels, in mouthwatering colors such as apricot ('Coq d' Or'), strawberry ('Jane Biggin'), and violet ('Gerald Portas'). Special forms include very double or star shaped blooms, speckled or splashed petals and fan shaped leaves. The gold color is at its best and freshest when the weather is cool. They will freeze, of course, but nights in the 40's and high 30's make them sparkle. Hot weather saps their vigor. Although they continue to bloom, the contrasting zones often disappear. Whether in the ground or in containers, they should be in shade. They need quite a lot if the temperatures are high. For this reason, they are an untapped source of color for home displays, interior lobbies, atria, and outdoor plantings in the shadow of tall buildings. When I had only a few goldens, I put them under the bench during the summer. The bench slats created a lattice shading. With a greater number of plants, I now keep them north of a hanging basket rack so the basket plants provide shade from the south. From spring to fall I heavily shade the greenhouse roof above them. Part of the shade is washed off for the winter.

They need good air circulation, but should not get strong wind. The near-neutral (neither acid nor alkaline) soil mix should drain very well. It should become fairly dry before it is watered again. For steady growth, the mix should not be rich, but a low concentration of even number fertilizer (such as 15-15-15) with micronutrients should be available on a regular schedule. Golden zonals have the capacity to bloom throughout the year. The flowers come from the base of the leaf stalk. As the plant grows and puts out new leaves, it continues to initiate the buds which become flowers. All zonals need an annual pruning, so they will stay shapely instead of becoming bare stemmed. Since the hot season is a down time for the goldens, they can be pruned prior to it. As new growth appears, the plants need light feeding, but must not be overwatered. As soon as the nights cool, a great transformation will take place. The silver bicolors and bronzes are nice, but the goldens are the winners.

Carol Roller is well-known in southern California as a speaker as well as a hybridizer of geraniums.

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GERANIUM COVER ILLUSTRATION

Melinda L. Kershner, P.O. Box 34364, San Diego, CA 92103
Miss Kershner has had 3 years of art training and currently does freelance paintings and illustrations, She also creates her own line of greeting cards.

Each year in the July/August issue of CALIFORNIA GARDEN, we publish a listing of GARDEN CLUBS WHICH ARE NOT AFFILIATES OF SAN DIEGO FLORAL. If you want your garden club to be listed free in this one issue, submit the name of the club, name, address, and telephone number of the President of the club, and time and place of meeting, no later than May 1, 1988.

If you want your club to be listed in each issue, and it is not now listed, have your club donate $10.00 a year to become a Club Affiliate, and submit the same information listed in the paragraph above. Your club will then also receive a subscription to CALIFORNIA GARDEN, be a member of San Diego Floral Association, and receive copies of our newsletters, plus receive other benefits for members.

The deadline for horticultural events and ads for the next issue is May 15, 1988.

San Diego Floral Association has recently purchased a new computer to be used for memberships and subscriptions. To simplify accountability, memberships and subscriptions will be recorded by issue received rather than by month you joined. Six issues of CALIFORNIA GARDEN are published annually. If your subscription or membership

Started with issue	Issue expires
1 Jan/Feb	Dec
2 Mar/Apr	Feb
3 May/Jun	Apr
4 Jul/Aug	Jun
5 Sep/Oct	Aug
6 Nov/Dec	Oct

If you joined in January and started with the Jan/Feb issue, your subscription / membership would expire in December because you would have received your six issues for that year. If you started with the May/June issue, your subscription/membership would expire in April. Renew early to avoid missing an issue.

HORTICULTURE CALENDAR

*San Diego Floral Association Event

***FREE - FLORAL CRAFTS INSTRUCTION WORKSHOP** each Thursday. 10 a.m.-3 p.m. in San Diego Floral Library, Room 105, Casa del Prado, Balboa Park. Info: 232-5762.

April 15, 16, 17

Spring Home Garden Show, several garden clubs' displays, gardening lectures/demonstrations, home remodeling, landscaping advice and info. The San Diego County Branch of the National Fuchsia Society will have available for purchase fuchsias in 4" pots and basket varieties. Culture sheets will be available. Sponsored by San Diego Home/Garden magazine. Del Mar Fairgrounds. Admission $5.00; children free. Senior discounts on Friday. Info: (619) 233- 4567.

April 16, 17

Rancho Santa Fe Garden Club's Annual Flower Show and Plant Sale. Theme is "Oh, What a Beautiful Morning!" with artistic arrangements to suit the theme. Garden Club, La Granada and Avenida de Acacias, Rancho Santa Fe, Sat: 1-5 p.m.; Sun: 10-5 p.m. Free admission. Open to public.

April 16, 17

63rd Annual Flower and Garden Show by Coronado Floral Association. Theme "We the People", Spreckels Park, Orange Ave., betwen 6th and 7th St., Coronado. Free parking. Admission Adults $1.50, Children $.25. Sat: 1-5 p.m. Entertainment and instructional exhibits start 2 p.m. Sun: 10-4 p.m. Entertainment and instructional exhibits start 11 a.m. Trophies 3 p.m., sale of cut flowers 4 p.m. Live plant sale 8-5 p.m. Also Coronado Art Association Art, Friends of the Library Book Fair, and Refreshment Stands.

April 16, 17

San Diego Bonsai Club's 23rd Annual Show, Casa del Prado, Room 101, Balboa Park. 11-5 p.m. Free.

April 16, 17

Southern California Amaryllis and Hemerocallis Society's Amaryllis Show at Los Angeles State and County Arboretum, Arcadia. Sat: noon-4:30 Sun: 10-4:30 p.m.

April 16, 17

San Fernando Valley Rose Society's Rose Show. Amateurs are also invited to enter competition by bringing in their roses between 6:30 a.m. and 10 a.m. Saturday. Miniature, cut, and potted large roses for sale. Descanso Gardens, La Canada Flintridge, Sat: 1-4:30 p.m.; Sun: 9-4:30 p.m.

April 16, 17

The Conejo Valley Garden Club, Fed. presents "Reflections of Water". Flower Show at the Thousand Oaks Library, 1401 East Janns Road, Thousand Oaks, CA 1-5 p.m. Admission free. For info contact Mrs. Camille Van Ast, 3798 San Marcos Ct., Newbury Park, CA 91320, after 6 p.m. (805) 498-7421. There will be a plant sale at the show.

April 16, 17

San Fernando Valley Rose Society's Rose Show at Van de Kamp Hall, Descanso Gardens, La Canada Flintridge. All amateur rose growers may enter specimens 7-10 a.m. Sat. Plant sale, Sat: 1-4:30 p.m.; Sun: 9-4:30 p.m. Info: (818) 447-4513.

April 17

How To Grow Better Houseplants by Shelagh Moore, a nationally certified interior horticulturist. Slides of plants grown indoors here and in their natural setting outdoors in Costa Rica. Watering and growing techniques discussed and plants sold. South Coast Botanic Garden, Palos Verdes Peninsula. 2 p.m.

***April 19**

SAN DIEGO FLORAL ASSOCIATION's 81st Birthday Party, Casa del Prado, Room 101, Balboa Park. 10:30 a.m. Virginia Carlson will speak on Origin of Plants. noon - Salad Pot Luck. Floral will supply dessert. Reservations: 232-5762.

April 20, 21, 22

1988 Landscape Industry Show, Long Beach Convention Center. Info: CLCA Headquarters, 2226 K Street, Sacramento, CA 95816, or call (916) 448-2522.

April 22, 23, 24

Hydroponic Society of America's Annual Conference and Trade Show at the Clarion-San Francisco Airport Hotel. Public invited. Includes bus tour to Sonoma County hydroponic greenhouses, a tour of Luther Burbank's home, lunch at a local winery, also topics by prominent speakers. Info: Mr. Gene Brisbon, Executive Director, P.O. Box 6067, Concord, CA 94524, or call (415) 682-4193.

April 23, 24

San Diego Rose Society's 61st Annual Show at Balboa Park Club, San Diego, Sat: 2-6 p.m.; Sun: 10-5:30 p.m. Admission $1.50

April 23, 24

San Diego Ikenobo Chapter Show, Casa del Prado, Room 101, Balboa Park, 11-4:30 p.m. Free.

April 23, 24

The Pacific Rose Society's 51st Show "Festival of Roses" in Ayers Hall, Los Angeles State and County Arboretum, Arcadia. Amateurs may enter betweeen 7-10 a.m. Sat. Rose bouquets, hybrid teas and miniature rose plants for sale. Sat: 1-4:30 p.m.; Sun: 9-4:30 p.m. Info: (818) 447-4513.

April 23, 24

European Wedding Flowers and Hand Tied Bouquets Course by Mr. Rene J. Van Rems. Info: (619) 944-0252.

April 23, 24

Dos Valles Garden Club of Valley Center will present their Standard Flower Show at the Valley Center Community Church, 29105 Valley Center Road, Valley Center, CA. Theme **"Circus Fantasy"** will be portrayed in artistic arrangements, Horticul-

ture displays and educational exhibits. Sat. 1-5 p.m. Sun 1-4 p.m. Free admission and parking.

April 23, 24

Fallbrook Garden Club's 56th Annual Spring Flower Show "Fiesta of Flowers", in Bowers Auditorium at Potter Jr. High School, 1743 Reche Road, Fallbrook. Displays include 4 divisions: Horticulture, Artistic Design, Junior Gardening, and Educational. The public may enter exhibits Friday evening 7-9 p.m., and Sat. 7-9 a.m. Door prizes and trophies will be awarded Sun. 3 p.m. Show Sat: 2-8 p.m. Sun. 10-4 p.m. Free admission to the public. Info: (619) 728-7479.

April 25, 26

"For All Seasons" Flower Show hosted by Point Loma Garden Club. St. Peter's By The Sea Lutheran Church Hall, 1371 Sunset Cliffs Blvd., San Diego. Mon: 1-5 p.m.; Tues: 10-4 p.m. Free admission. Info: Mrs. Glen W. Smith, P.O. Box 6155, San Diego, CA 92106

April 28

Holland Tour led by garden writer, Tineke Wilders, to her native country to visit the world's largest flower market at Aalsmeer, the Keukenhoff gardens and a visit to tulip grower Frans Roozen. Info: (619) 299-3010.

April 30, May 1

San Diego-Imperial County Iris Society's 23rd Show, Casa del Prado, Room 101, Balboa Park. Sat: 12:30-5 p.m.; Sun: 11-5 p.m. Free.

April 30, May 1

An Introduction to Wedding Flowers and Simple Party Work Course by Mr. Rene Van Rems. (619) 944-0252.

April 30, May 1

South Coast Rose Society's Rose Show. 800 blooms of miniature and full-size roses. Seminars on planting, fertilizing and spraying roses. Miniature roses for sale. South Coast Botanic Garden, Palos Verdes Peninsula, CA Sat: 1-5 p.m.; Sun: 10-4 p.m.

April 30, May 1

Annual Epiphyllum Show at Wild Animal Park. Hundreds of blooms, educational exhibits, cuttings available. Guided tours of Epiphyllum House.

April 30-May 8

"Design Implementation" Workshop meeting on Saturdays and Sundays, will review the performance portions of the **UNE Landscape Architecture.** Taught by Jerry Hastings and Bob Fawcett at the Extension Bldg., 10995 Le Conte, adjacent to the UCLA campus, 8 a.m.-5 p.m. for a fee of $335. For details call UCLA Extension (213) 825-9414.

May 1

Quail Botanical Gardens Foundation's Annual Fun and Funds Festival in Ecke Bldg., Quail Gardens, 230 Quail Gardens Drive, Encinitas. 10-4 p.m. On sale will be a wide assortment of plants, handcrafted items, jams, jellies, and fancy breads. Free admission. Docent Gift Shop and Plant Sales Center will also be open as it is every Sunday.

May 1

California Arboretum Foundation's Baldwin Bonanza. This 18th annual sale will feature a wide variety of hibiscus, staghorn ferns, Chinese fringe trees, shrubs, vines, palms, and other plants at bargain prices. Los Angeles State and County Arboretum, Arcadia, CA 9-4:30 p.m.

May 2-May 31

Group Exhibit "Irina Gronborg and Students" at the Athenaeum, 1008 Wall Street, La Jolla, CA

May 3-June 10

"Exotic Garden" botanical drawings by Irina Gronborg at J. Dewers Gallery, 345 Market, San Diego. 10-5:30 Mon. thru Sat. Irina has a Master of Arts degee from Stanford University, teaches drawing, painting, and art history. Currently she teaches botanical illustration at UCSD and the Athenaeum School of Art, and drawing at Grossmont College. Many of her illustrations have been included in CALIFORNIA GARDEN.

May 6-June 2

Artists Barbara Dobberpuhl, Ann Runco, Barbara Ward, Elizabeth West, and Jean Williams will feature their watercolors specializing in landscapes, floral, wildlife, and nature scenes at the Hospitality House, Descanso Gardens, La Canada Flintridge, CA 9-3:30 p.m. Sponsored by the Descanso Guild.

May 7, 8

San Dieguito Garden Club's 12th Annual Standard Flower Show "We Remember Mother" in the Ecke Bldg., Quail Gardens, 230 Quail Gardens Drive, Encinitas, CA Sat: 1-5 pm.; Sun: 10-4 p.m. Public invited. No admission charge. Info: 436-9462.

May 7, 8

Vista Garden Club's Standard Flower Show and Plant Sale at Brengle Park Recreation Center, 1200 Vale Terrace, Vista. Sat: 1:30-5 p.m.; Sun: 10-4 p.m. Free admission. Info: (619) 724-5032.

May 7, 8

The Los Angeles Branch of the International Geranium Society will present a Geranium Show at Descanso Gardens, La Canada Flintridge, 9-4:30 p.m. Advice on pruning, fertilizing, growing techniques and answering horticulture questions, Zonal, ivy, and scented leaf geraniums for sale.

May 8

San Diego Epiphyllum Society's 18th Annual Mothers Day Show, Casa del Prado, Room 101, Balboa Park. 11-5 p.m. Free. Cuttings for sale.

May 14, 15

Fiesta de Flores annual fund raising sale featuring a variety of indoor and outdoor plants, fruit trees, ferns, impatiens, orchids. Entertainment, refreshments, and demonstrations. South Coast Botanic Garden, Palos Verdes Peninsula, CA 9-4 p.m.

May 14, 15

San Diego Geranium Society's 16th Show and Sale at Casa del Prado, Balboa Park, San Diego. Sat: noon-5 p.m.; Sun: 10-5 p.m. Free.

May 14-28

Chelsea Garden Show and Garden Tour of England and Wales hosted by San Diego Home/Garden magazine. Tour Britain's finest gardens and historical homes with garden writer, Gretchen Pelletier. Info: Coast Travel (619) 239-9973.

May 15

The Epiphyllum Society of America presents their

Annual Flower Show in Ayers Hall, Los Angeles State and County Arboretum, Arcadia, CA. 11-4:30 p.m. Cuttings and potted pants for sale. Info: (818) 447-4513.

May 19

***San Diego Floral Association's Bus Tour to Taylor's Herb Garden** in Vista. Catered picnic lunch and walking tour included. $14.00 members; $16.00 non-members. Info: (619) 561-2436. Send check for reservations to Barbara Pruyne, P.O. Box 235, Lakeside, CA 92040.

May 20, 21

Sun Harbor Branch National Fuschia Society Show and Sale, La Jolla Village Square, 10-6. Free.

May 20-29

Great English Gardens, the Chelsea Flower Show Tour, and membership in the Royal Horticultual Society. Sterling Tours, (619) 299-3010.

May 20-30

Floral Tour of England/Scotland, including Chelsea Flower Show, Glasgow floral festival, and many special features. Flintridge Travel, (619) 222-0383.

May 21, 22

Los Angeles Rose Society's Rose Show and Sale. Miniature and cut roses will be sold. More than 1500 miniature blooms on display. Descanso Gardens, La Canada Flintridge, CA 9-4:30 p.m.

May 21, 22

Heartland African Violet Society's 7th Annual Show at Casa del Prado, Balboa Park, San Diego. Sat: 1-5 p.m.; Sun: 11-5 p.m. Free.

May 22

California Rare Fruit Growers Plant Sale, in courtyard between Casa del Prado and Junior Theatre, Balboa Park, 10-4, open to public.

May 22

The South Bay Epiphyllum Society's Epiphyllum Show and Sale at South Coast Botanic Garden, Palos Verdes Peninsula, CA 10-4 p.m. Plants will be sold from 9-4 p.m.

May 23-27

Short Course in European Floral Design with Rene Van Rems. 9-5 p.m. daily. (619) 944-0252. Fee.

May 24

The Judges Council of Southern California's Flower and Horticulture Show focusing on the theme "Centennial". Descanso Gardens, La Canada Flintridge 1-4:30 p.m.

May 28, 29

Balboa Park Bromeliad Study Group's Show and Sale at Casa del Prado, Balboa Park, San Diego. 11-4:30 p.m. Proceeds from sale are used to support Bromeliad Garden in the San Diego Zoo. Free.

May 28, 29

San Diego Botanical Garden Foundation's Plant Sale, Casa del Prado Patio, Balboa Park, San Diego. 10-5 p.m. Free admission.

May 28, 29

Chrysanthemum Sale of about 3,500 rooted cuttings, all selling for 50 cents each. Information on planting and growing will be available. Descanso Gardens, La Canada Flintridge, CA, 9-4:30 p.m.

May 28-30

22nd Annual Santa Anita Bonsai Show at Los Angeles State and County Arboretum, Arcadia, CA. 9-4:30 p.m. Demonstrations on bonsai art twice each day. Pots, books, plants, trees and other bonsai supplies for sale.

May 29

Landscaping Lecture by Dean Du Vander using slides. South Coast Botanic Garden, Palos Verdes Peninsula, CA. 2 p.m.

June 3 - 30

Dory Grade will present "Visual Poetry". Horticultural and floral prints, oils, acrylics, water colors, and drawings will be exhibited. Sponsored by Descanso Gardens Guild. Descanso Gardens, La Canada Flintridge, CA 9-3:30 p.m.

June 4

Hemerocallis Show, educational displays, lectures, booklets, display featuring old favorites and new varieties of daylilies. Plant sale of over 150 plants. noon - 4:30 p.m. Los Angeles State and County Arboretum, Arcadia, CA

June 4, 5

Fuchsia Sale by South Coast Fuchsia Society at South Coast Botanic Garden, Palos Verdes Peninsula, CA. Sat: 9-4:30 p.m.; Sun: 10-4 p.m. More than 2,000 fuchsias, arrangements, corsages, table decorations, culture seminars.

June 4, 5

San Diego Cactus and Succulent Society's Show and Sale at Casa del Prado, Balboa Park, San Diego. Sat: 1-5 p.m.; Sun: 10-5 p.m. Free.

June 11, 12

Fuchsia Show sponsored by the National Fuchsia Society at Descanso Gardens, La Canada Flintridge CA 9-4:30 p.m. Over 1,000 plants for sale including fuchsias, ferns, begonias, and other shade plants.

June 11, 12

Cactus and Succulent Show presented by the South Coast Cactus and Succulent Society at South Coast Botanic Garden, Palos Verdes Peninsula, CA. More than 1,000 cactus and succulents for sale. Sat: noon - 4:30 p.m.; Sun: 9-4 p.m.

June 11, 12

Azalea Show by the Valley Satsuki Azalea Society at the Los Angeles State and County Arboretum, Arcadia, CA. Show will highlight the Japanese azalea. Demonstrations on training will be conducted three times a day. 9-4:30 p.m.

June 11, 12

Southwest Hemerocallis Society's 15th Show at Casa del Prado, Balboa Park, San Diego. Noon-5 p.m. Free.

June 16-July 4

1988 Del Mar Fair Flower and Garden Show "Gardens of San Diego". Info: (619) 296-1441 or 755-1161 Ext. 356.

June 18, 19

Western International Gladiolus Show sponsored by the Southern California Gladiolus Society Los Angeles State and County Arboretum, Arcadia CA Sat: 1-4:30 p.m.; Sun: 10-4:30 p.m. More than 300 ruffled, exotic, miniature, and extra large varieties displayed. Gladiolus arrangements and corsages for sale.

June 18-19
Arts and Craft Faire sponsored by the Descanso Garden Guild at Descanso Gardens, La Canada Flintridge, CA 9-4:30 p.m.; Hand-made items, jewelry, pottery, baskets, woven clothing, sculptures, food for sale.
June 18, 19
San Diego Fuchsia and Shade Plant Society's Plant Show and Sale at Casa del Prado, Balboa Park, San Diego. Sat: noon-5 p.m.; Sun: 10-5 p.m. Free.
June 19
Lecture on 'How to plant a succulent arrangement' by Eleanor Barker, a member of the South Coast Cactus and Succulent Society. South Coast Botanic Garden, Palos Verdes Peninsula CA 2 p.m.
***June 21**
SAN DIEGO FLORAL ASSOCIATION's Annual Meeting, 6 p.m. Social Hour; 6:30 Dinner; 7:30 Program. Reservations: 232-5762.
June 22-26
36th Annual Lompoc Flower Festival. Theme: "Famous Women in History". Lompoc Valley Festival Association. 113-A North 1 Street, Lompoc, CA 93438. (805) 735-8511.
June 25, 26
Summer Showcase '88 sponsored by the Miniature Museum of San Diego. A miniature and collectible Show and Sale featuring demonstrations and slides plus over 80 select dealers with dollhouses, miniatures, dolls, teddy bears, and accessories. Scottish Rite Center, 1895 Camino del Rio South, San Diego. Sat: 10-5 p.m.; Sun: 11-5 p.m. Free parking. Admission $3.50. Info: (619) 454-4959 or (619) 278-6519.
June 25, 26
Fuchsia Show and Sale by National Fuchsia Society at Los Angeles State and County Arboretum, Arcadia CA 9-4:30 p.m. Colorful displays, sale of over 1,000 plants, fuchsias, begonias, ferns, and other shade plants, including trees, shrubs and bonsai.
June 25, 26, July 2, 3
Alice Menard's Garden, acclaimed one of the most beautiful in America, is open to the public. 9 - 3 p.m. Donation $3.50. 13027 Mapleview Street, Lakeside CA
June 25-July 3
Bonsai Show by the Descanso Bonsai Society at Descanso Gardens, La Canada Flintridge CA 9-4:30 p.m. Display of over 500 bonsai, demonstrations of care and creation of bonsai. Tools, bonsai, pots, books, and other related bonsai material for sale. Sponsored by Descanso Gardens Guild.
July 2-23 and July 23-Aug. 13
UCLA/Royal College of Art in London courses for American Students. Classes include art, photography, architecture, fashion and garden design. Info: UCLA Extension, (213) 825-9676. P.O. Box 24901, Los Angeles, CA 90024.
July 31-August 14
1988 Water Lily Symposium and Tour in Harrogate, England. Info: Water Lily Society, P.O. Box 104, Buckeystown, Md 21717-0104 (301) 662-2230. Copy of the itinerary in detail is in San Diego Floral office for reference.
August 26-28
San Francisco County Fair Flower Show at San Francisco County Fair Building, 9th Avenue and Lincoln Way, Golden Gate Park, San Francisco. 10-6 p.m. Preview August 25 at 6:30 p.m.-8:30 p.m. Admission $3.00 general, $2.00 seniors, Free Children under 12. Flower show is open to all amateur gardeners and non-commercial horticulturists in San Francisco and the nine Bay Area counties. It is the largest judged flower show in the West, and the only County Fair devoted entirely to plants, cut blooms, and flower arrangements. Info: (415) 558-7962.

THE EPIPHYLLUM

By Valerie Ann Bailey

The ancestors of the modern hybrid Epiphyllum lived in the rain forests of Mexico, Central and Southern America, growing in tree branches, high above the jungle floor. The first plants were brought to Europe in the 16th Century by explorers returning from the New World. Extensive hybridizing since then has resulted in plants that produce shimmering iridescent blossoms, some of the most beautiful and breath-taking flowers in the world.

With its year-round mild climate, San Diego County is the Epiphyllum capital of the world. San Diego hybridizers have introduced some of the best hybrids of recent years, including the gorgeous yellows that were unheard-of just a few years ago.

May is the height of the Epiphyllum blooming season. The Ephiphyllum Society, with over 286 members, will host a show at the Wild Animal Park in Escondido on April 30, and May 1, and have their annual Mother's Day show at Casa del Prado, Balboa Park, San Diego on May 8. Don't miss this spectacular show.

BALBOA PARK HORTICULTURE INVENTORY

A project to inventory and catalog Balboa Park's significant plants and landscape features, and to collect and conserve the history of its evolution has been started.

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SQUASH

By National Garden Bureau

A well-planned garden will include both summer and winter squashes. These two squash groups can provide tasty nutrition from early summer to months past the last harvest. Seven winter types are shown on the left, while the basket holds four types of summer squash.

INTRODUCTION

Squash, the native North American vegetable, was cultivated by the Cochise peoples in New Mexico where unearthed remains dated back to 4000 B.C. Squash and corn are two of the oldest sources of food grown in North America.

Today, squash is easy to grow from seed and can be successfully grown by beginning gardeners. It is one of the most diverse vegetable classes with more than twenty squash sizes or shapes, ranging in color from bluegray, orange and pink to golden yellow, pastel green, cream and forest green. Squash is receiving acclaim for its nutritional value, containing both vitamins and essential minerals. To celebrate this reliable native, the national Garden Bureau declares 1988 as the "Year of the Squash."

HISTORY

Squash was one of the first crops grown in the prehistory of the New World. Our earliest physical evidence comes from the Ocampo caves in Tamaulipas, Mexico, where several species of squash have been found along with the remains of gourds, jack beans, and other crops. These remains date to about 7000-5000 B.C.

The National Garden Bureau found the earliest use of squash was by the Cochise Indians in what is now the southwestern United States. Remains of domesticated squash dating to about 4000 B.C. were found at Bat Cave, New Mexico, along with the remains of pod corn, a primitive ancestor of what we know today as corn. This is strong evidence that squash predates corn as a domesticated crop.

For centuries after the introduction of agriculture into North America, farming was practiced primarily by Indian tribes of the Southwest, and the base of their agriculture was corn and squash. About 300-500 A.D. beans were introduced into the technology, and the farming of corn, beans and squash, by a tribe called the Anasazi, marked the beginning of a new era of prosperity. Squash is not only one of the oldest of the New World crops, it became almost universally grown.

In 1276 a major drought began in the Southwest that would last until 1299. The drought caused a migration of the southwestern tribes to the south and southeast. With the migration went the knowledge of their farming technology. By the time the Europeans arrived in 1492, variations of the corn/bean/squash technology were seen wherever corn was grown. The early settlers survived because they picked up this knowledge from the Indians.

Research conducted by the National Garden Bureau found the reason why these three crops were so often grown in one plot. As the corn, bean and squash technology evolved among the

Indians, they came to practice a very effective polycultural technique. The corn stalk provided a pole for the beans, and the squash was grown as a ground cover group. The squash not only provided food, but also helped control weeds, provided kindling for cooking, and produced a good organic mulch.

The knowledge of squash seems to have entered the written records of Europe late in the 16th century. We can surmise that many settlers recorded their knowledge of this and other New World plants in their private diaries and letters home. But for the formal introduction of the plants we can look to one Thomas Hariot, a mathematician, who accompanied an expedition financed by Sir Walter Raleigh. Mr. Hariot returned to England with samples of squash and knowledge of its use learned from the Indians. In 1588, Hariot published a report that was described as the first book in English devoted to the flora and fauna of what is now the United States. **Cucurbita pepo** was included in the 1633 edition of Gerard's **Herbal.**

The 20th century home gardener would easily recognize today's squash from this vivid Elizabethan description. "The great long Pompion which bringeth forth thicke and rough prickly stalkes, which with their clasping tendrils take hold upon such things as are neere unto them . . . the floures be very great like unto a bell cup, of a yellow colour like gold, having five corners standing out like teeth . . . the fruite is great, thick, round, set with thick ribbes, like edges sticking forth."

NOMENCLATURE

Squash is a member of the family **Curcurbitacea,** which includes some 90 genera and 700 species of plants. They are described as tendril climbing herbs from the tropic and temperate zones, grown for the edible fruits and for ornament. In addition to squash and pumpkins, the curcurbit family includes such familiar plants as cucumbers, melons and gourds, as well as hundreds of lesser-known herbs. Three species, **C. maxima, C. moschata,** and **C. pepo,** all contain varieties listed as squash. Squashes are commonly designated "summer" or "winter"; while most of the summer squash are from **C. pepo,** the winter squash occur in all three species.

PLANNING YOUR GARDEN

The first step in planning is to choose a sunny location as squash needs full sun all day to mature and set fruit. Squash requires more space than many other garden vegetables, so advance planning is worthwhile.

Summer and winter squash have different space needs and will be discussed separately.

Most summer squash varieties have a bush habit and many of the newer hybrids have been bred for compact plant size. Plan on four square feet for each plant. This is a relatively early crop, producing fruit in about two months. Summer squash has many culinary uses from salads to stir fry. However, they do not store well and are best used within several days of harvesting.

Most winter squash have a vining or semi-bush habit, although some newer varieties are bush. Vining types need a larger area than do the bush varieties. Plan on 12 square feet for each vining plant. Small fruited winter squash can be trained on a 4 foot high trellis. The trellis should be placed toward the rear of the garden so that the vines do not shade other vegetables. Since it takes eighty to one hundred thirty days to produce mature winter squash, these varieties are best suited to areas of North America with a long growing season.

The phrase "growing season" simply means the number of frost free days in an area. The county extension agent can tell you the average dates of the last frost in spring and the first frost in fall. The difference between the two is the length of the growing season. Most seeds must be sown after the last frost in spring and the fruit harvested before the first frost in autumn. Seed catalogs and seed packets print a "days to maturity" designation for each plant variety. The designation includes the number of days from sowing to harvest. For example, if a particular variety takes seventy days to mature and your growing season is greater than seventy days, that variety is suitable for your location.

Because squash has such a long productive season, it is a heavy feeder. To fortify the soil, spade in organic materials such as well-rotted manure or compost before seeding. Later in the

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growing season, an application of a balanced fertilizer, such as 10-10-10, will replace the necessary nutrients.

SOWING SEEDS

There are two main ways to sow seeds in the garden; which the gardener chooses depends on space limitations and personal preference. The first method is planting in a series of hills, leaving 4 feet between hills. To create a hill, mound the earth in a cone shape about 5 inches high. Make a saucer like depression in the top of the mound and plant a half dozen seeds in a circle. Cover the seeds with 1 inch of fine soil or vermiculite. Once seeds have sprouted and grown a set of true leaves, thin to three plants per hill. If more than one row of hills is desired, space rows 5 feet apart. The use of hills makes it easier for the gardener to walk all around the plants to water, weed and cultivate. In addition, a raised planting area warms the soil and improves drainage.

The second method is row planting. Plan to space the rows 6 feet apart to allow for plant growth, to promote good air circulation and to give the gardener easy access to the plants. Begin by sowing two to three seeds per foot, but thin to one squash about every 2 feet once true leaves emerge. Gardeners who live in areas with at least one hundred fifty frost free days might consider a second planting of summer squash. Remove the first planting of squash after harvest. Seeding again between July 1 and August 15 will lengthen harvest times and avoid the "Zucchini Bumper Crop Blues" that can afflict many of us in late summer. Plan to grow squash varieties suited to your climate and growing season as well as to your family's taste.

SOIL PREPARATION

Squash does best on a well-drained and aerated soil. If your garden site has heavy clay soil, till to improve drainage. Squash prefers soil that is neither too acid nor too alkaline; pH levels of 5.5 to 6.8 are acceptable. To learn the pH level of your garden, contact your county cooperative agency for information on soil testing.

Germination time can be hastened somewhat by presoaking seeds to soften their hard coat. Soak in tepid water for no longer than twenty-four hours; if seeds are allowed to remain wet, they are more susceptible to decay causing organisms. Dry the seed carefully before planting. Delay sowing seed until after danger of frost is past and soil temperature has warmed up to a minimum of 70°F. At a soil temperature of 80°F, seeds should sprout in three to five days.

CULTIVATION

Cultivation of squash is not difficult, provided the gardener remembers a few basic requirements.

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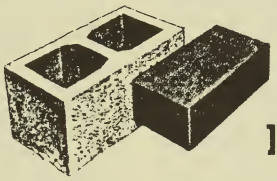

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Winter squash is fairly drought resistant once the plants are established, but summer squash needs a regular water supply during its blossom and fruit development. Both types should receive enough water weekly, either through rain or irrigation, to wet the soil to a depth of 10 to 20 inches. Drip or ground irrigation is preferable to overhead watering because wet leaves may encourage the formation of foliar diseases such as mildew.

The use of black plastic mulch, especially for bush varieties, can cut down the need for frequent weeding. It may be difficult to put plastic mulch down in areas where running vine types are grown. Organic materials, such as grass clippings or straw, can be used and have the advantage of improving the soil when spaded into the garden at the end of the growing season. Keeping the garden area weed free will insure that tender seedlings do not have competition for water and nutrients. Squash leaves grow rapidly and will shade out many weeds by mid-season. Spaces between rows can be hoed, but because leaf stalks are brittle and tender, it is advisable to hand weed close to the plants.

POLLINATION

Gardeners sometimes wonder why many squash flowers do not set fruit. Separate male and female flowers are produced on the same plant or vine, but only the female flowers bear fruit. Female flowers grow on short stalks and have a bulge, the miniature squash, below the petals. Bees serve as the primary means of pollinating the female flowers.

HARVEST

Summer squash is harvested at an immature stage when the seeds are small and the skin is tender. One test of tenderness is to pierce the skin of the vegetable with your thumbnail. If the skin breaks easily, the fruit is still tender. Squash can be picked any time. Many gardeners prefer the baby or miniature size squash which is harvested with the blossoms still on the fruit. If the fruit is picked frequently, the plant will be encouraged to continue production. It's easy to miss young fruit hidden by the large leaves. Walk through your patch every few days and lift leaves to see what has been hidden. Some gardeners prefer yellow or white squash since they are easier to spot amid the green foliage. Should summer squash become large however, all is not lost. If the squash is cut in half lengthwise, and the seeds removed, the fruit can be baked. Summer squash can be kept in the refrigerator for five days, if put in a moisture proof container or plastic wrap.

Winter squash is ready for harvesting when the skin is hard and resists thumbnail pressure. Cut stems 1 or 2 inches from the end of the fruit. Twisting or pulling squash from the vine may break open the fruit and make it easier to decay. Usually squash should be picked prior to the first frost. Squash can also be harvested after the first light frost has killed the foliage; squash can even

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recover quite well from light frost damage to the fruit which causes small water soaked spots to appear. If the squash has been subjected to temperatures below 50°F for two weeks, the squash may break down and rot in a few weeks.

DOES WINTER SQUASH NEED TO BE CURED BEFORE STORAGE?

Some sources say winter squashes can be cured to dry and harden their shells completely before they are stored. Also, curing speeds the conversion of starches to sugars, improving the eating quality. Winter squashes that can be cured are butternut, delicious, and hubbard. Acorn types are not recommended for curing. To cure, put squash in a warm, (75-80°F) well-ventilated place, such as near a furnace or wood stove, or on a sunny, enclosed porch for a week or two. One expert says the higher temperature curing process can be skipped if you can keep a long term storage temperature of 50-55°F. Curing also can reduce storage life. Another source recommends picking the squash only when the rinds are well-hardened and storing it in a dry, moderately warm place, such as on shelves in a dry basement which has a furnace.

STORAGE TECHNIQUES

The National Garden Bureau recommends storing winter squash at 50-55°F with a humidity of 50-75 percent. The storage location should have good air circulation, a uniform temperature and humidity. Under good storage conditions, gardeners can expect acorn squash to store ten to fifteen weeks. Other winter squashes can last up to six months in storage.

NUTRITION

Zucchini is lower in calories than many popular summer fruits and vegetables. Corn, tomatotes and watermelon each pack more calories than zucchini's 22 calories per cup. As summer's bounty wanes, turn to winter squash for an excellent source of Vitamin A and minerals. Cancer researchers now believe that proper diet may have a strong role in reducing the risk of certain cancers. Research has focused on foods containing Vitamin A and beta-carotene, a precursor of Vitamin A. Beta-carotene is found in yellow and orange vegetables, such as squash. Although about the same in caloric value as potatoes, winter squash contains more than twice the potassium as potatoes.

PESTS

Clean, well maintained gardens are less likely to be infested with pests or infected with diseases. At all times of the year, keep growing areas free of perennial weeds, garden residues, and trash. If a plant is badly infected, remove it from the garden, but do not add to a compost pile. After harvest, destroy squash plants to prevent overwintering of pests or viruses.

The National Garden Bureau found three pests that might be a problem to gardeners. They are the striped cucumber beetle, the squash bug and the squash vine borer. Each pest will be discussed for identification and suggested control.

The striped cucumber beetle begins as a white, slender larvae with brownish ends. It grows to be an adult about ¼ inch long, yellow to black, striped or spotted. The beetle causes damage in several ways. In the larval stage, it feeds on roots underground. In the adult stage, it feeds on stems, leaves, fruit, and on young plants, which can wilt and sometimes die. The adult beetle carries two diseases of squash, bacterial wilt and squash mosaic virus. Starting seeds or transplants under a cold frame or covering young plants with netting will help to keep beetles off. Till the soil in the spring to expose any hibernating adults. To control, use pesticides containing one of the following chemicals: carbaryl, malathion, or methoxychlor.

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As a nymph, the squash bug varies from bright green with a red head and legs, to dark greenish-gray with a black head and legs, and is about 3/8 inch long. As an adult, it is a flat, brownish-gray bug, about 5/8 inch long. Squash bug egg clusters are shiny brick-red and can be found on the undersides of leaves and on stems and unripe fruit. The squash bug does its damage by sucking the juice from leaves and stems, which will wilt and dry up. Young plants are especially vulnerable.

Control this pest by picking up any bugs or egg masses you see on leaves. Lay boards on the ground near plants, bugs will gather under the boards at night. In the morning, lift the boards and destroy any bugs you find. Pesticides to use are those containing carbaryl.

The squash vine borer is a problem east of the Rockies. The larvae of this pest are up to an inch long, wrinkled, and white with a brown head. Larvae are hatched from eggs laid on stems near the base, in late spring or early summer, by a clear-winged moth. Hatched larvae eat holes in the stems, causing individual stems or the plant to wilt or die. Signs of vine borer infestation include a sudden wilting of the stem, small borer holes at the base of the stem, and green sawdust-like material inside stems or in piles near the borer holes.

Watch for, scrape off, and destroy any egg clusters found on stems or undersides of leaves. Split the stem lengthwise and remove or kill the borer. Cover the split with a moist mound of dirt to prevent drying and to induce root growth beyond the point of injury, or wrap the split with gauze and water well. Cut off and destroy very badly damaged stems. Prevent moths from laying eggs by spreading shiny foil under plants in late spring and early summer. The sunlight will reflect to confuse the moths. Use pesticides containing malathion or methoxychlor. Apply at critical stage when runners are less than 2 feet long.

DISEASES

Bacterial wilt causes a sudden wilting and drying up of squash vines and plants. The bacteria enter the plants and plug up the water vessels of the stems and leaves. Wilting will first be seen in the leaves of the plant. In the early stages of disease, the leaves may wilt in the daytime and then recover at night. Young plants will die rapidly, while older plants may at first be affected only in one stem. Wilt can also cause fruit to wither. The presence of bacterial wilt is indicated by a white, sticky, stringy substance seen when a stem is sliced and pulled apart.

Bacterial wilt is totally dependent on the cucumber beetle to transmit the bacterium which causes the disease. To control the disease, therefore, it is necessary to control the cucumber beetle.

Viruses are indicated by yellowish-green, mottled leaves, stunted vines, and warty, deformed fruit. New leaves may die and the plant may decline. Most virus or mosaic disease on squash is caused by cucumber, watermelon or zucchini yellow mosaic viruses. The virus survives in perennial weeds, in the soil, or in the seed of infected plants. Like bacterial wilt, it is spread by aphids or chewing insects such as cucumber beetles. It can also be spread by a gardener moving through or working in the garden under wet or moist conditions, such as after watering. To control the disease, control the insect carriers by using sprays of malathion.

Powdery mildew is a fungus disease occurring all over the U.S. A powdery white growth appears on the upper surface of the leaves, which will turn yellow and die. The mildew competes with the plant for nutrients, reducing yield and perhaps even killing the plant. Older leaves are affected first. Powdery mildew spreads rapidly and is carried by the wind. It can occur under any weather conditions, but wet or dewy leaves encourage its development. Under warm temperatures it can become a serious problem. To control, strip off older leaves and use a recommended fungicide.

FUTURE BREEDING

The breeding objectives to be achieved are improved disease/virus tolerance, multiple disease resistance, and in the more distant future, insect and pest resistance. Breeders are increasing the color range of squash fruit, looking for unique or decorative colors. Also important, is to change the plant habit from a vining habit that extends 12 feet to a compact bush habit needing only 2 square feet of garden space. Earliness and yield are primary considerations for all experimental lines prior to an introduction of a new cultivar. Look for more squash cultivars that can be harvested early and used as summer squash, or if left on the plant, the squash forms a protective skin for storage like a winter squash.

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Bananas

By Brian Lievens

The edible banana is native to southeast Asia, travelling from there east with the Polynesians, and west with the Arabs, Portuguese, and Spanish. Bananas are among the earliest plants cultivated by man, and presently rank as the most popular fresh fruit, grown in all tropical and subtropical countries for both domestic use and export.

The banana plant is a herbaceous perennial made up of an underground rhizome and clusters of tightly rolled petioles and leaves above ground. The rhizome extends outwards in all directions, forming a "mat" of trunk-like stalks. At maturity, a flower bud emerges above the leaf canopy forming "hands" of fruit which continue to swell in size until they are filled out and ready for harvest. The mat of trunks should be kept to three or four healthy, mature stalks, cutting down each in turn after its fruit has been harvested. A successor is then allowed to grow up in its place.

While bananas are all subject to frost damage, some cultivars have a greater resistance to cold, and recover more quickly from such damage. There are three basic groups of temperature tolerance in subtropical cultivation:

TENDER

Clones which will suffer damage to both plant and fruit at temperatures below 35 degrees Fahrenheit.

AVERAGE

Plants with damage to fruit at temperatures below 35 degrees Fahrenheit.

SEMI-HARDY

Varieties that suffer little or no damage all the way down to freezing.

Bananas will thrive in any soil that is high in organic matter. The root system is shallow, (less than three feet), but pervasive, spreading out in all directions to absorb water and nutrients. The plant's soft, cord-like roots can cover an area 6-8' beyond the pseudostems. Bananas should be fertilized in small doses on a regular basis during the warm growing season. Over fertilizing will cause leaf-margin burn, and entanglement of newly emerging leaves. Thoroughly composted pseudostems and leaves have proven to be the most effective way for plants to obtain the necessary NPK as well as all other micronutrients.

Bananas are surprisingly drought tolerant, relying on water stored within their rhizomes. However, optimum fruit production requires a steady moist soil profile. Water logged, perpetually soggy conditions should be avoided. Such an environment is conducive to rot, especially during winter months, and particularly for young plants.

In the subtropics, there are few pests that are fatal to the banana. The most serious damage is done by gophers, which devour both roots and rhizome, causing the plant to wilt and finally collapse. This can be prevented by lining the planting hole with galvanized wire mesh. Rats will feast on the ripening fruit, unless the bunches are covered with burlap, wire, or plastic. Snails and slugs have been known to mass in the leaf petioles, feeding on the emergent growth. Aphids will infest the unfurling leaves, but cause little damage.

Several banana clones are subject to a fungal infection called "cigar end rot" which attacks the tip of the fruit during cold wet weather, turning it black and slowly working its way upwards, like the burning ash of a cigar. One can reduce the chances of infection by removing desiccated floral parts, and by covering the "hands" with an opaque, open-ended plastic bag. In addition to keeping the fruit dry, bagging hastens ripening, and minimizes damage from cold and wind.

COMMERCIAL DESSERT-TYPE

TRIPLOID - Acuminata Spp. (AAA)
Common Produce Types, Ie - Dole/Del Monte/ Chiquita Brands
Almost all of the following cultivars have been successfully grown in this climate, and under proper conditions will produce the same number, quality, and size of fruit as they do in those countries that export them commercially to North America.

GROS MICHEL/ Bluefields
This plant was the standard cultivar for the banana industry for seventy years. Its fruits are very large and of outstanding quality; furthermore, due to the symmetry of the bunches, and upward curve of the individual fingers, the entire stalk could be transported directly to distant markets. Gros Michel's dominance of the Banana industry has been eclipsed by the Cavendish cultivars due to its susceptibility to Panama disease. The plant itself ranges in size from 12-22'. It is somewhat slender in stature, requiring propping, and is sensitive to cold. At present it is not known whether it has been successfully fruited in California. In Florida, however, it is considered marginal.

COCOS/ Highgate
This is a shorter mutation of Gros Michel, less susceptible to wind damage, and slightly more productive. In our subtropical climate, it has produced very large fruits of excellent quality. The plant is tender, and somewhat fragile, with flower buds emerging at 10-15'.

GRANDE NAIN
Currently this is the most important commercial clone in the world. It is vigorous, productive, (bunches of fruit weighing over 100 lbs.), sturdy, and semi-hardy. Grows 6-10'.

VALLERY
This cultivar is a preferred export variety in both tropical and subtropical countries. Like the Grande Nain, it has a very high quality fruit, and is resistant to stress. Productive, semi-hardy, it is also a bit taller and less stout requiring some support when in fruit. Grows 7-12'.

LACATAN / Hamakua / Bungulan
A common producer of export fruit from Jamaica. High quality, semi-hardy, requires propping of stems while fruiting. Grows 8-10'.

DEL MONTE - exact name unknown.
This variety was brought directly to southern California from a commercial Del Monte plantation in Costa Rica. Average cold tolerance, slender trunks, fruiting height unknown.

SAN JOSE
Another clone taken from outside the Costa Rican capital. To date it has performed very well in this climate, growing 6-8' and producing large bunches of high quality fruit. It has an average resistance to cold.

COMMERCIAL DESSERT-TYPE BANANAS

ARGENTINO
Like San Jose and Del Monte, this banana was introduced to San Diego directly from a plantation in Central America. With slender trunks mottled in patches of dark brown, it is an attractive plant of average cold hardiness and requires some support while fruiting.

ZANMORENO / Extra Dwarf Cavendish
At 4-6' it is one of the smallest fruiting bananas, Productive and sturdy, it has good quality fruit and is an excellent plant for a raised bed or large container. Average hardiness.

DWARF CAVENDISH / Dwarf Chinese, Enano.
Commercial banana in the Canary Islands for export to Europe. Fruit is a good quality, and has performed well in many areas of California, but suffers from cigar end rot in the winter. Average hardiness, sturdy. Grows 6-8'

GIANT CAVENDISH / Tumok.
Commercial producer for Egypt, Brazil, Martinique, and the Philippines. Average hardiness, sturdy and productive growing 8-10'.

ENANO GIGANTE - A commercial clone of Mexico. High quality fruit of large size under ideal conditions. Tender, often needing support when bearing, subject to cigar end rot in cold, wet weather. 8-10'.

NON-COMMERCIAL DESSERT TYPES

HONEY / Sucrier / Nino, Diploid Acuminata, (AA).
One of the world's most popular, local bananas that has remained outside the international market place because of low productivity and poor shipping qualities. It is very sweet, with tiny hands of petite fruit borne on a fragile slender plant. Best grown in part shade, or morning sun. 6-8', Tender.

NEY POOVAN /
Lady Finger, Diploid Hybrid, (AB)
An excellent fruit for southern California having medium bunches of small delicious fruit. Large plant of 20-25', semi-hardy.

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This is another universally grown cultivar that is difficult to ship. It has a common name derived from the fruit's slightly acid apple-like flavor. Currently the premier plantation banana in Hawaii, it is sturdy, productive, vigorous, and semi-hardy. 15-25'.

MANZANO / Mexican Apple / Semi-Dwarf Apple / Silk Fig.
Somewhat shorter than STD Apple, (10-15'), with fruit of similar shape and size, but poorer quality. Semi-hardy.

DWARF APPLE / Dwarf Brazilian / Santa Catarina Prata.
6-8', vigorous grower, reputed to have fruit quality comparable to its namesake. New to California.

RED BANANAS - Triploid Acuminata, (AAA)

RED BANANA / Cuban Red / Jamaican Red.
Highly ornamental plant with much red and purple in the pseudostem and leaves. Tall in stature, (10-25'), the mature fruit can range in color from blood to scarlet red. Tender.

GREEN REDS / Kru.
Mutation of Red banana with greener foliage and fruits that yellow upon ripening. Untried in California.

DWARF JAMAICAN RED
Plant and its fruits retain all of the features found on the STD red, but bear on a 6-8' pseudostem. Tender.

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COLORADO BLANCO
A large, strikingly beautiful plant with the reddish trunk of a STD red, culminating into a white crown and leaf base. The fruit is yellow; the plant is 20-25'. Tender.

EXOTIC BANANAS / COOLING & DESSERT TYPES Hawaiian Clones (AAB)

IHOLENA group; White Iholena, Red Tholena, Haa Haa

WHITE IHOLENA
This is the fastest growing banana from planting to harvest, (less than one year). The fruit has a distinctive pink flesh. Maximum height tends to be between 8-15'. The skin of the fruit turns yellow long before it is ready to harvest, and should be left on the bunch until soft. Average hardiness, requires propping.

RED IHOLENA
A stunning mutation of the above with a combination of pinks and purples in the pseudostems and leaves, otherwise identical.

HAA HAA
A Dwarf form of White Iholena, 6-8', very stout, with fruit similar to the others. Average hardiness.

POPOULU GROUP: Popoulu, Hua Moa

POPOULU
Can be eaten raw, but is commonly cooked. Bears good sized bunches of short, plump fruits with pink flesh. 12-14' in height, temperature range unknown.

MORE HAWAIIAN BANANAS

HUA MOA
One of the finest cooking bananas, it is very palatable eaten raw. In contrast to the Popoulu, it bears far fewer fruits, but they are considerably larger. The plant is very slender and elegant with long narrow leaves, 8-12'. Tender.

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MAIA MAOI GROUP - Maia Maoi, (Untested in California), Ae Ae, Kaulau, and Eleele.

KA AA LAU

A fine cooking banana, large bunches, vigorous, growing to 16'. Average hardiness.

AE AAE

The banana of the ancient Hawaiian royalty due to its spectacular white and green variegation covering the entire plant. Still quite rare, slow to pup, and semi-hardy. The fruit is best cooked, but is palatable raw.

ELEELE / Seyschelles Plantain.

Fruit of this clone is best eaten cooked, and has the distinction of being larger in girth than any other banana. 15-20', average hardiness, attractive, brown to black coloration.

DOUBLING BANANA

Dichotomous fruiting head.

From a single trunk this mutation of a triploid Acuminata produces two flower buds. The plant resembles a dwarf Cavendish, growing a single bud for the first generation, then doubling as it reaches its full size. 4-8'. Tender.

INDIAN / SOUTH EAST ASIAN TYPES (AAB)

MYSORE

Represents 70% of the bananas produced in India. The fruit is of the highest quality, sweet with a good texture. The plant is vigorous, semi-hardy with large bunches of small fruit. Its leaves and trunk are ornamental, with splashes of red, black, and purple. 8-15'.

WALHA

6-8' with a very stout pseudostem, this durable plant delivers small hands of petite fruit that are slightly crunchy. Semi-hardy, it will produce well in the shade.

RAJA PURI

Another dwarf, (6-8'). Semi-hardy producing short, good quality fruits.

PYSANG RAJA

Has unusual, orange fleshed fruit. The plant is vigorous reaching 15-20', producing many large flavorful fruit. Semi-hardy.

ADDITIONAL PLANTAIN BANANAS

ORINOCO /

3 / Better Select / Burro / Bluggoe. (AAB)

This is the most common banana in southern California, having been grown in this area for over one hundred years. It is semi-hardy, drought resistant, tolerant of many soil types, and under suitable conditions reaches a height of 10-15'. The fruit is very plump, with a distinct angular shape. While it has a good flavor, the texture suffers from a pithy core.

DWARF ORINOCO

Same description as the above, but plant fruits at 4-6', and is quite shade tolerant.

ICE CREAM / Blue Java

A mutation of Orinoco, (or possibly Saba), with attractive silver blue skin. The fruit is quite pudding-like, and can be eaten with a spoon, but suffers from a spongy core.

AFRICAN RHINO HORN - (AAB)

The name of this clone is derived from the unusual length of the fruit, which has been known to reach 2'. An excellent cooking banana, it also can be eaten raw. The plant itself is visually appealing, with a wine-colored trunk and purple mottling on the leaves. Very slender, requires propping. 10-12'. Tender.

MACHO PLANTAIN

This banana is a popular Latin staple that should be eaten cooked. The plant itself, (AAB), is attractive when young with purple colorations in the leaves. Fruiting height undocumented in this area. Tender.

ADDITIONAL CULTIVARS, (As yet untested)

PUERTO RICAN DWARF PLANTAIN, (AAB)
LACATAN (Of the Philippines). (AAA)
SABA, Or Saba group, (ABB) or (BBB)
FEHI, Musa Fehi, possible too tender for this climate.
FRENCH HORN PLANTAIN, (AAB)
MANAIULA, (AAB)
GOLDEN BEAUTY / IC2, man made hybrid, (AAAA)
GOLDEN AROMATIC, (AAA)
CARDABA, (ABB) or (BBB)
RIPPING / Praying hands, (ABB)

ADDITIONAL BANANA CULTIVARS
That warrant testing

PITOGO / Ugly Banana, (ABB)
300, Possibly Mysore, (AAB)
FATHER LEONORE, (AAB)
HIGHGATE, (AAA)
BODLES ALTAFORT, (AAAA)
KLUE TEPAROD, (ABBB)
Many of the numbered clones from the Honduras breeding program. (SH series).

Recently Described Mutations

WEEPING JAMAICA, and **PINK JAMAICA** both forms of **GROS MICHEL.**
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VARIEGATED FRENCH PLANTAIN / Banane panaches.
DICHOTOMOS I.E. Doubling - Gros Michel.

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Lawn Water Conservation

By Margarita Mondrus Engle

Turfgrass is an important component of most California gardens. We enjoy the refreshing appearance of a green lawn; lawns are ideal for barbeques, ball games, and general relaxation.

Nevertheless, turfgrasses are notoriously thirsty. Irrigation of lawns consumes nearly half of the water around most southern California homes. In areas such as San Diego County, where water is especially valuable, the need for water conservation in every garden is critical.

There are many ways to reduce water use on lawns.

LAWN WATERING TIPS

- In most of southern California, lawns should be watered every third day during warm weather.
- Guidelines should be altered whenever weather conditions change. Water more during hot Santa Ana conditons, less during rainy or cloudy weather.
- Water your lawn only when it needs water. If the grass in your lawn springs back as you walk on it, water is not needed yet.
- Deep-soak your lawn. Irrigate long enough for water to reach the roots. A light surface sprinkling will just evaporate and be wasted.
- For efficient water use, mow correctly: Cool-season grasses at 1 1/2". Warm-season grasses as follows:
  3/4" Bermuda, zoysia, seashore paspalum
  3/4 to 1 1/4" St. Augustine, kikuyu
- Water during the cool part of the day. Early morning is better than dusk, since it helps prevent the growth of fungus.
- Aerate to reduce compaction and minimize runoff.
- Conserve water by skipping one irrigation day per month. Most turf grasses recover quickly after brief periods of water stress, and no damage will be done.

LAWN WATERING GUIDELINES

How much water does a lawn need? The answer depends on the soil, climate, species of grass, and type of sprinkler.

These simple guidelines are useful for much of southern California, desert areas excepted. (For coastal climates, subtract 10%; for hot inland valleys, add 10% to the number of minutes).

To Determine Your Lawn Watering Needs:

1. Set 3 flat-bottom cans or coffee mugs at various places on your lawn.
2. Turn on your sprinkler(s) for 15 minutes.
3. Measure the depth of water in the cans with a ruler to determine the average depth of water in all the cans.
4. Compare your average depth with the chart below to see how many minutes to irrigate every third day. Use as a guideline only; adjust whenever unusual weather conditions occur. If the chart recommends watering a great deal less then you presently do, make changes gradually to allow grass root systems time to adjust.
5. Watch closely for visual signs of under-irrigation such as dry spots or wilting. Make adjustments if necessary.

LAWN WATERING CHART:

Average Water Depth in Cans—inches	3/4"	5/8"	1/2"	7/16"	3/8"	5/16"	1/4"	3/16"
SPRING Number of Minutes	7	8	10	12	14	16	20	25
SUMMER Number of Minutes	8	10	12	14	16	18	22	30
FALL Number of Minutes	5	6	8	9	10	12	15	20
WINTER	Water only during warm, dry periods							

What's New In Lawn Water Conservation?

Careful selection of species is one of the easiest ways to conserve water.

Cool-season grasses are generally high maintenance species. They require more water in summer than warm-season grasses. The cool-season grasses include the fescues, bluegrasses and ryegrasses.

Warm-season grasses are more drought-tolerant, but they turn brown in winter when they are dormant. Warm-season grasses include Bermuda, zoysia and St. Augustine.

Recent developments in turfgrass research make it possible to cut down on water use by selecting low-maintenance lawn species.

The most promising cool-season species is tall fescue **(Festuca arundinacea).** Until recently, tall fescue was a coarse-leaved bunchgrass used primarily in pastures. New tall fescue varieties now have improved texture, color, density, and overall lawn quality, and are notably low-maintenance.

University of California researcher, Lin Wu, has found that because of its deep root system, the 'Olympic' variety of tall fescue can recover from extended periods of severe drought stress once irrigation is resumed.

New varieties of warm-season grasses also show promise. 'El Toro Zoysia' shows considerable potential as a low-maintenance lawn.

Irrigation System Uniformity

The most common problem affecting water waste in turf irrigation systems is poor uniformity of water distribution. Poor uniformity means that some parts of the lawn receive much more water than others. Water is wasted whenever you run the sprinklers on the entire lawn longer in an effort to get enough water on dry brown spots.

Non-uniformity is caused by the use of more than one type of sprinkler, by placing sprinklers at different spacings, and by differences in water pressure.

When you establish a lawn sprinkler system, make sure the design is uniform. Sprinkler heads should apply the same amount of water to the entire lawn.

Mobile Irrigation Lab Service Available

For a detailed evaluation of the uniformity, efficiency and scheduling needs of large (2 acres or more) turf irrigation systems, call one of the following Mobile Irrigation Labs:
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Coachella Valley:
Coachella Valley RCD (619) 347-7658
Riverside-Corona:
Riverside-Corona RCD (714) 683-7691

Margarita M. Engle is the Director of the Mobile Irrigation Laboratory in San Diego County. The Mobile Labs provide free service.

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The Succulent Jatrophas

By Dorothy Dunn

The genus **Jatropha** is a branch of the **Euphorbiaceae** whose 165-175 recognized species are not nearly as advanced as the Euphorbias themselves. It is a very wide-spread genus, with species occurring in both the New and Old Worlds, including southern North America, Mexico, Baja California, Central and South America, tropical Africa, Madagascar, and the West Indies. In addition, many species have become naturalized in other parts of the world. The majority of **Jatropha** species could not be regarded as truly succulent, but several of them do produce caudices, which make them desirable and intriguing subjects to the collectors of succulent plants. According to Gordon Rowley, distinguishing features of the plants include "the alternate, petiolate, often large and thin leaves, the usually conspicuous and branched stipules, and the separate, unisexual flowers — one apetalous female surrounded by several males". The flowers are often very showy, and, like **Euphorbias,** the fruit is a three-lobed capsule, although the seeds are generally larger and bean-like. The seeds of many species contain an oil which is purgative.

Jatropha plants come in a variety of shapes and sizes, including trees, shrubs, and perennial herbs. Two of the most familiar species, **J. podagrica** and **J. cathartica** (formerly **J. berlandieri**), are very characteristic examples. **J. cathartica,** from southern Texas and northern Mexico, forms a large spherical underground caudex and **J. podagrica,** a very tropical species from Central America, has a swollen, bottle-shaped trunk with peeling, grayish-tan bark. The specific name 'podagrica' refers to the "gouty" appearance of the stem. The type species of the genus, **J. urens,** is armed with stinging hairs and typifies the notorious, much-maligned subgroup referred to as "mala mujer". To quote George Radwin (in the Cactus and Succulent Journal of America, Nov.-Dec. 1976), "a subgroup, **Cnidoscolus,** contains species whose leaves have stinging hairs. When contact breaks the cap off a hair, the needle-like tip injects formic acid into the wound thus formed. The skin irritation that is caused has given this group the "generic" name "mala mujer"."

The name of the genus is derived from the Greek: **iatros,** meaning "physician", and **trophe,** meaning "food" — the obvious reference being that medicinal properties were attributed to several species. Included in these are cures for leprosy and venereal diseases, antidotes for snake-bite, emetics for stomach pains, and concoctions for tooth-ache relief, gum problems, skin eruptions, dysentery, hemmorhoids, warts, and sore throat. In addition, the bark of some species was used in tanning and dyeing, and the tough flexible stems were used in the making of baskets and whips. Apparently, all parts of the plants — leaves, stems, flowers, seeds, and roots — served some useful purpose, and it would seem that **Jatrophas** rivalled the **Euphorbias** in the multitude and variety of native usages.

Several species of **Jatropha** occur in Baja California. One of the most commonly encountered is probably **J. cinerea** (called 'Lomboy' by the natives), which occurs from about mid-peninsula southward. It is a large shrub with smooth grayish to brownish bark and small pink tubular flowers. The astringent red sap stains one's clothing perm-

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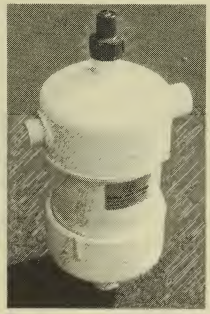

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anently, and is used to prevent chapped lips and to stop bleeding. Another wide-spread species is **J. cuneata** ('Matacora') which is smaller in every way than **J. cinerea.** The specific name **cuneata** refers to the wedge-shaped leaves. The whitish flowers are microscopic. Probably the best show of fall color in southern Baja California is provided by **J. vernicosa,** whose leaves turn a deep, brilliant red before falling. It occurs in the Sierra de la Giganta, above 2,000 feet.

On the whole, **Jatrophas** are quite easy to cultivate. Being for the most part tropical in origin, they do require some winter warmth and a richer than average soil mix which is still coarse and fast-draining. When they are growing and flowering they can take very generous watering but, when dormant, watering, if done at all, should be done with extreme caution. This is particularly important in the case of **J. cathartica.** Due to the toxic nature of the sap, few pests attack **Jatrophas;** however, they are not immune to fungal and bacteria-related problems, and these seem to be the most common causes of loss of plants in cultivation. Pollination is apparently accomplished with a variety of insects, including moths, butterflies, bees, and possibly ants. **Jatrophas** do not seem to be self-fertile. Propagation is usually from seed — although cuttings of a few species have reportedly been rooted, but with great difficulty, due to the woody nature of the stems.

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AWARDS

Thomas F. Strong, president of Trickle Soak Systems and a long time proponent of drip irrigation, was recognized for his "outstanding contribution to the practice of water convservation in landscape" at the Xeriscape '88 Conference held in San Diego in February.

The annual conference, co-sponsored this year by the San Diego County Water Authority and Cuyamaca College Botanical Society, attempts to increase public awareness of the importance of conserving water through creative landscaping, and is part of a nationwide effort under the auspices of the National Xeriscape Council.

As the recipient of the Individual Recognition Award, Strong was selected on the basis of long-term service and/or contributions through his individual efforts in the areas of education and public information; research and development of equipment; and promotion of techniques of water conservation.

Strong, who has been involved with the drip irrigation industry for more than 10 years, has helped develop changes in water application through design of effective irrigation systems. He has actively promoted water conservation through both product design and public education, and is a two-time recipient of the American Society of Agricultural Engineering's ASAE 50 Award, presented for outstanding product design for the automatic fertilizer injectors which he developed and now manufacturers.

Strong resides in Santee with his wife, Marilyn. His firm, Trickle Soak Systems, is currently headquartered in Santee.

CALIFORNIA'S TOP-RATED RESIDENTIAL LANDSCAPE FOR 1987

The Rancho Santa Fe residence of Bob Richardson was the winner of the 1987 President's Trophy from the California Landscape Contractors Association for the best residential landscaping in the state of California. The project was installed by Landscape Resources of Fallbrook. Designer was Wimmer Yamada & Associates.

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Book Reviews

By Mary Lou Orphey

CONRAN'S BASIC BOOK OF HOME GARDENING, A complete Guide for the First-Time Gardener, by Stefan Buczacki 1988 Viking Penguin Inc., 40 W. 23 St., New York, NY 10010. 8.75 x 11.25 in. 192 pages Hardcover $24.95.

First-time gardeners are often owners of new homes surrounded by impacted dirt, or older homes overgrown with neglected vegetation. Conran's book will guide the novice gardener through the dilemma of deciding what to do.

Well-organized, packed with colorful examples, the book explains where to begin, what tools one needs, and how to manage the soil. It describes how to plan and create the framework, siting and shaping beds, paths and paving, lawns, structured supports, greenhouses, garden pools, and front gardens. Choosing plants and planting them is clearly explained. There is advice on how to plan a kitchen garden, raising vegetables and fruits, and how to maintain the garden properly.

This book is the first tool to buy before plannng or planting; its advice will help avoid mistakes and provide an appropriate environment for one's garden.

GARDENING IN SPANISH AND ENGLISH, A Phrase Book for Homeowners, Gardeners, and Landscapers by John Bury. Published by Ridgetop Books, P.O. Box 60028, Goleta, CA 93160. 1987 8 x 4.75 in. 109 pages. Paperback. $7.95.

Frantic sign language may help dispel a few gardening disasters, but this book is the key to effective communication when employing a Spanish speaking worker. The book is designed to be equally useful for English or Spanish speakers.

There is a key to Spanish/English pronunciation, and notes on how to use prepositions and verbs. There are vocabularies for vegetables, flowers, fruits, parts of the garden, weather, measurement, and other pertinent words. The thirty chapters are arranged in a logical order. Each chapter deals with a different subject; for example, greetings, hiring, weeding, spraying, pruning, etc.

Developed with the imput of landscapers, gardeners, homeowners, landscape architects, and nurserymen, this paperback is a good gardening tool when dealing with Spanish speaking workers.

THE ROMANTIC GARDEN, A Guide to Creating a Beautiful and Private Garden Paradise, by Graham Rose. Illustrations by Paul Cox. 1988 Penguin Books, Viking Penguin Inc., 40 West 23rd Street, New York 10010, 8.75 x 8.75 in. 167 pages. paperback. $14.95.

Tired of the noisy clatter of city life? Create a romantic garden - an enchanting place far removed from the realities of today. Such a garden can be a small patio area of a city condo, or a several acre site; but there are some specific rules to follow.

This delightful book, complete with beautiful photographs and fanciful illustrations, shares the secrets of the romantic gardens - those elements when combined create a unique scene.

Learn how to make a sanctuary, internal screens, passages through a garden, atmospheric effects, places for quiet reflections or dramatic effects. Find out which plants to use.

Enjoy reading this special book; it will inspire your imagination to create a restful place for yourself.

GROWING SILVER, GREY & BLUE FOLIAGE PLANTS by Roger Spencer 1987 Kangaroo Press Pty Ltd., P.O. Box 75, Kenthurst 2156 Represented in the U.S. by ISBS, Inc., 5602 N.E. Hassalo Street, Portland, Oregon 97213-3093 7 x 9.50 in. 88 pages Paperback $12.95.

We all need some relief - and so do gardens. Silver, grey, and blue foliage provide a restful contrast in gardens filled with green foliage or vibrant colors. Grey foliage and white flowers illuminated at night is a delightful evening garden.

Learn about the psychological impact of grey and blue-grey plants, how grey is used in art and design, planning a grey garden, pruning, grooming, pests and diseases of grey foliage plants. There are lists of landscape uses and general uses, and a plant directory containing most of the commonly used grey, silver, blue foliage plants in Australia.

For gardeners who have not considered using grey in their gardens, this informative book will inspire them to add a new dimension to their gardens.

GROWING ACACIAS by Marion H. Simmon 1987 Kangaroo Press Pty Ltd., P.O. Box 75, Kenthurst 2156 Represented in the U.S. by ISBS. Inc., 5602 N.E. Hassalo Street, Portland, Oregon, 97213-3640 7 x 9.50 in. 70 pages Paperback $12.95.

Acacias grow in Central and South America, Africa, Asia, and on islands in the Pacific and Indian Oceans, in addition to Australia and North America. In the springtime, we see acacias blooming on the hillsides of Southern California.

Acacias can be grown from seeds, cuttings and layering. many varieties thrive in akaline soils, some in acid soils, and others are tolerant of both conditions.

There is advice on choosing the right plant for specific locations, for containers, ground covers, windbreaks, coastal areas, damp soil, for humid tropical areas, and arid lands. Also included are descriptions of species and color photographs of acacias in bloom, and information on fertilizing, mulching, watering, pruning, and pests, and diseases.

PRUNING, A Practical Guide by Rodger Elliot. First published in 1984 by Lothian Publishing Company Pty Ltd., 11 Munro Street, Port Melbourne, 3207. Reprinted in 1985. Represented in the U.S. by ISBS., Inc., 5602 NE Hassalo Street, Portland, Oregon 97213-3640. 6.50 x 9.25 in. 127 pages. Paperback. $12.95.

Be aware that this book is written for gardeners in Australia and New Zealand. (So, don't prune your roses in June or July!) Otherwise it is a fine book on pruning. Proper pruning techniques are universal. Clearly written, it has lots of good diagrams and sensible advice.

Principles of pruning and basic pruning techniques are explained. Also included is pruning evergreen and deciduous trees and shrubs, herbaceous perennials, climbers, fruit trees, bushes, vines, canes, roses, and wall plants.

The pruning chart has an alphabetical listing of botanical names and shows pruning requirements for each genus. A common name index is included for use with the pruning chart.

GROWING LILIES by Derek Fox 1985 Published by Croom Helm Ltd., Provident House, Burrell Row, Beckenham, Kent BR3 1AT. Represented in the U.S. by ISBS, 5602 NE Hassalo Street, Portland, Oregon 97213-3640. 6½ x 9¼ in. 264 pages. Hardcover. $17.95.

Of particular interest to Lilium enthusiasts, this textbook provides up-to-date information on the species.

Discussed in depth are the importance of lilies in the garden, cultivation, propagation, pests, diseases, and other disorders of lilies, and the geographical distribution of the species. Also included is a survey of the species in alphabetical order of the genera Lilium and Cardiocrinum; a brief history of early hybrids and other information on hybrids.

Don't confuse the family Liliaceae with Lilium. In other words, Agapanthus, Hemerocallis, Gloriosa, Convallaria (Lily of the Valley) or Hosta will not be found in this book on Lilies.

Lilies are still difficult to grow, but armed with knowledge from this book, gardeners will have a better understanding of their care and possible uses in the garden.

THE AMERICAN WEEKEND GARDEN by Patricia Thorpe. 1988. Random House, Inc., New York, NY 10022. 7.25 x 9.25 in. 285 pages. Hardcover $24.95.

This is an informal book about informal gardens. Slanted toward aspiring gardeners with limited time, the book contains practical advice about weekend gardening in cold climates. Specific sections refer to gardening in other parts of the United States, but the emphasis is on Zone 5.

The contents could be arranged more effectively and it is too bad the lovely photographs are clustered in one section. Even so, it is a book about gardening in America, with plants appropriate for the area, and advice relevant to American gardeners.

THE OPINIONATED GARDENER, Random Offshoots from an Alpine Garden by Geoffrey B. Charlesworth with drawings by Laura Louise Foster, 1988 David R. Godine, Publisher, Inc., Horticultural Hall, 300 Massachusetts Avenue, Boston, Mass. 02115. 6.25 x 9.25 196 pages pages Hardcover $16.95

All active gardeners need some quiet time to be an armchair gardener. When that time has come, one couldn't do better than enjoy this witty book. It is filled with astute observations on the life and viewpoint of an alpine plantsman.

ROCK GARDENS THROUGH THE YEAR by Karl Foerster, Sterling Publishing Co., Inc., 2 Park Avenue, New York, NY 10016 1987 7 x 9.75 in. 292 pages. Hardcover $29.95 ($42.95 Canada)

Rock garden enthusiasts will find much to interest them in this excellent book.

Suggested designs and lay-outs for rock gardens, planting times and methods for planting rock garden plants, tending your rock garden, general remarks on the rock garden through the year, suggested plants, bulbs, shrubs, grasses and ferns for rock gardens are a few of the subjects covered in this extensive book.

Colored photographs, illustrations, lists of plants for particular sites and their requirements are included.

This seventh edition is packed with information to inspire its readers to expand and improve their rock garden.

GARDEN PLANTS FOR CONNOISSEURS by Roy Lancaster 1988. Published in the U.S. by Timber Press, Inc., 9999 S.W. Wilshire, Portland, Oregon 97225. 8 x 10.75 in. 192 pages. Hardcover $29.95 plus $3.00 shipping for 1st book and $2.00 for each additional book.

The author defines a connoisseur as a critical judge in matters of taste. A noted plantsman in Britain, the author was asked to choose one hundred of his favourite plants. Included in this list are trees, plants, shrubs, climbers, conifers, or perennials; all of which have outstanding characteristics, many of which are rare, or difficult to grow. Keen gardeners may find a jewel somewhere for that special spot in their garden.

The text "is a mixture of personal experience of plants growing in the wild and in cultivation spiced with the occasional observation from other, far wiser, gardeners. The mark of a keen gardener is that he or she is game to try any plant within reason. It is on this basis that the following selection was chosen. If, despite the pitfalls and potential disappointments associated with growing rare or difficult plants, the gardener succeeds in growing a plant encountered for the first time in this book I shall be well pleased. In addition, if its cultivation brings anything like the amount of pleasure these plants have brought to me than I shall consider my efforts well spent. Happy hunting!"

HYDROPONICS FOR EVERYONE, A Practical Guide to Gardening in the 21st Century by Dr. Strauan K. Sutherland. 1986 Hyland House Publishing Pty Limited, 10 Hyland Street, South Yarra, Melbourne Victoria 3141 Represented in the U.S. by ISBS, 5602 NE Hassalo Street, Portland, Oregon 97213-3640 7¼ x 10 in. 104 pages. Paperback $12.95.

Soiless gardening - growing plants with liquid nutrients - its possibilities are exciting. In addition to using hydroponics in home gardening, one can visualize raising vegetables in highly urbanized settings such as vacant office buildings.

Written specifically for Australian gardeners, the text lists Australian sources for hydroponic gardening supplies. One must check locally to find out if similar products are available.

In addition to the basics of plant growth, there is information on support mediums for hydroponic plants, types of hydroponic systems, germinating seed and planting out, what to grow, maintenance of hydroponic systems, and care of the plant's environment, pest and disease control, and advice on getting started. The colored photographs, diagrams and cartoons are helpful.

Suggested plants are tomatoes, strawberries, lettuce, cucumber, zucchini, chard, and herbs such as chives, parsley, and thyme. Most flowers can be grown successfully.

Forgotten Immigrants

By Irene Jacob

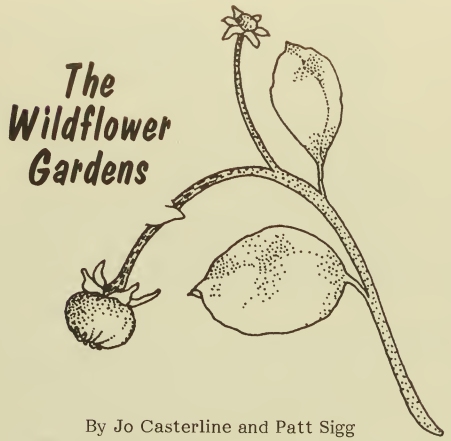
FORGOTTEN IMMIGRANTS is the title of a unique exhibit of the Rodef Shalom Biblical Botanical Garden, in the Oakland section of Pittsburgh, Pennsylvania. The exhibit opens June 1, 1988 and will celebrate Israel's fortieth Anniversary through a display of plant immigrants to the Holy Land.

The Bible lists only 128 species while modern Israel has more than two thousand three hundred. As the disparity is so large we must ask: where did they come from?

Traders, pilgrims, Crusaders and new settlers have introduced them through the millennia. Over the centuries the plant world of the Holy Land has changed drastically with some surprises: The fruit of the **Opuntia ficus indica** is known in Israel as the **Sabra. Sabra** has become the designation for Israeli native born Jews who, like the fruit, may be tough and prickly on the outside but sweet on the inside. The plant itself is not native but came as an immigrant from Mexico 400 years ago.

The **Sabra** was introduced to Israel in the sixteenth century by traders or pilgrims. The plant spread rapidly as it needs little water and it grows well even in the desert areas.

The exhibit, FORGOTTEN IMMIGRANTS ADDS A NEW ELEMENT TO THE Rodef Shalom Biblical Botanical Garden; it is accompanied by a booklet and docent tours. The Garden regularly displays almost one hundred species from the Bible as well as plants with Biblical names. The garden is open from Sunday through Thursday, 10:00 a.m. until 2:00 p.m., Saturday, 12-1:00 and Wednesday evening 7:00 to 9:00 p.m. There is no admission charge. Handicapped access is provided. Guided tours are available to groups through reservations. (4905 Fifth Avenue, Pittsburgh, PA 15213; 412-621-5455)



By Jo Casterline and Patt Sigg

What is all that white stuff growing along the road? Well, most of it is California buckwheat. **Eriogonum fasciculatum,** flowering now and throughout the dry summer. It has been seeded and seeds itself along road cuts and other large areas for a massed effect and as a soil binder. California has seventy six species in the genus **Eriogonum** and there are four forms in **E. fasciculatum.** The flowers vary in color from deep pink to several degrees of white. They are arranged in loose clusters and close examination reveals an attractive bouquet of little flowers. The overall appearance of the plant is more weedy than ornamental though the different types range from mat-like varieties to the four or five foot St. Catherine's Lace, **E. giganteum.**

The buckwheats form extensive colonies from central to southern California and grow in the foothills, on the mesas, and along the coast. It is easily grown from seed and, while you may not want it in your formal garden, it would be a new addition to a wildflower garden with pentstemons and salvias. The mat-like variety would be useful as a groundcover requiring little water and is attractive in a rock garden. Two of these prostrate buckwheats are available at Weber nursery in Encinitas as is the large one, St. Catherine's Lace.

Also blooming now with a dense panicle of white blooms is laurel sumac, **Rhus laurina.** This fast-growing shrub is a large rounded bush form 7' to 17' in height. It manages to keep its fresh dark green appearance through the dry season without a drop of water. In fall its seeds are a picnic for the returning yellow-rumped warblers.

Keep your eyes open for the roadside plants. Although the colorful displays of spring are gone, there are fascinating native plants that are blooming during our no rainfall months. As you look over the hillsides or chaparral you will marvel that these plants maintain a good appearance while our imported beauties would never survive.

Marigolds

Brighten the Landscape

From California Association of Nurserymen

The days of just a yellow or gold marigold have long since disappeared as today's choices are staggering. You simply cannot visit your local garden center to purchase a few marigolds without finding that this choice involves much more than you thought. Marigolds are now available in many colors and in many plant heights — from a few inches to three feet tall with every other size in between.

Another choice facing you is the flower size. There are petite blooms as well as large ones. The colors of the flowers run from the straw shades through the yellows and golds to reds, bronze and fancy combinations such as those with a deep red center and rich gold on the outer edge.

The so-called petite marigolds make excellent plants to color up the border of a flower bed or use as an edging. The larger size plants can be used as a background planting. In fact, you could create a whole flower bed of just marigolds from tall to short and none of them will look like the other. The impact from an all marigold bed is close to an explosion as it's vibrant with color.

With possibilties such as these, the marigold is a staple of the summer garden. They revel in the sun and don't require any extra-special care. As with all flowering annuals, regular feedings will be to their liking. Removal of dead, faded flowers will be a great help too. Like many plants when the dead flowers are allowed to stay on the plant, the plant will not continue to produce more blooms. Pinching them off will encourage the plants to flower over and over again throughout the season.

It has been claimed by some that the rather earthy smell of the marigold deters pests in the vegetable garden. At the same time, others plant marigolds in the vegetable garden because they say it attracts the insects to itself, thereby protecting the vegetable plants from attack. Whatever reason you find to plant marigolds, you can't fail when adding such spectacular color to the garden and even in containers. For those of you without a vegetable garden to protect, why not plant some vegetables among your marigolds. It's a combination that not only looks attractive, especially in containers, but one that will allow you to have the best of both worlds.

California GARDEN Since 1909

NOW IS THE TIME...

A CULTURAL CALENDAR OF CARE FROM OUR AFFILIATES

Compiled by Penny Bunker

BEGONIAS Margaret Lee

watch tuberous begonias for signs of mildew; correct with dust or spray.
check cane type begonias, and cut back, if needed.
spray for insects using malathion base spray.
finish repotting where needed; use a light porous soil mixture.
feed plants with well-balanced all-purpose fertilizer.
water as needed; just keep moist, not wet.
check the tuberous type for drainage, repot to a larger container, if needed, adding fresh soil. Stake any tall stems.

BONSAI Dr. Herbert Markowitz

develop a watering schedule, but avoid over-watering, especially pines.
spray for insects as needed, using either a systemic, or mild surface insecticide.
prune all trees to promote growth and shape. Tip prune junipers and pines using finger pruning instead of cutting tools, which cause brown tips.
complete the repotting of all trees that have not been repotted, except for the flowering trees that have not completed their blooming cycle. Some deciduous trees that have been in full leaf can be defoliated in late June and then repotted.
place trees to receive optimal sun, but do not place in full sun after 11:00 a.m. to prevent sunburning.

BROMELIADS Mary Siemers

continue a monthly fertilizing schedule throughout the warm months with a water soluble fertilizer preferably high in acid, using ¼ the recommended amount.
cut off shoots (pups) during warm weather for faster and healthier growth. Best when they are 1/3 or 1/2 size of mother plant.
provide overhead protection as hot summer weather is approaching. Most plants can not take direct sun. For brighter and prettier color on your plants, use material that will allow plenty of filter sunlight, such as shadecloth, lath, etc. (Lath should run north and south).
remember that you can place plants with severe sharp edges in direct sun; the amount of sun depends on the area in which you live. Example: near the coast, some plants may take all day sun; further inland, fewer hours.
place indoor decorative plants in a lighted area, such as a window, or an overhead inflorescent light. Spray them frequently - at least twice a week. Change water in center cups at least once a month to keep from becoming stagnate.
always provide good drainage and never allow potting media to be soggy.

CACTI & SUCCULENTS Joey Betzler

water plants, but don't let them stay wet. When pots get noticeably light in weight, water them.
fertilize for growth and flowering. Allow winter growers to go dormant, and rest till next growing season before feeding.
protect plants from brilliant sun. Shade cloth can keep plants from being bleached out on very hot days.
check any new additions to your collection for insect pests. Keep away from rest of your plants. If pests or disease is noticed, treat at once.
groom plants for any shows. Cleaning them is a way to monitor their condition.
repot those plants needing it; use a well draining mix, but do not overpot. Good "rule of thumb" is to allow an inch between plant and the pot.
repot seedlings when they have doubled or tripled in size. If they have been in same mix for over six months, it is a good idea to repot.
check entire collection for any pests or disease; if so, treat at once to avoid an infestation.

CAMELLIAS San Diego Camellia Society

transplant plants that have started new growth.
repot plants that have outgrown their containers.
start a feeding program; use an acid type fertilizer — cottonseed meal, special camellia mixes, or liquid fish.
maintain a regular watering schedule. Do not allow plants to completely dry out.
mulch plants with redwood compost.
watch for leaf beetles; spray or dust to discourage
prune for shaping and thin out center wood for good air circulation.

DAHLIAS Abe Janzen

plant smaller varieties, and give regular care to growing plants.
draw soil around the plants as they grow.
feed with low-nitrogen fertilizer (4-10-10) either dry, or liquid.

spray weekly to guard against leaf miners, thrips, or aphids.
water when top soil is dry; when buds are forming, soak deeply, and more often.

EPIPHYLLUMS The Warren Kellys
prune plants to shape - take cuttings after flowering.
put out snail bait, and watch for other pests.
remove wilted flowers by cutting about 3/4 unless you desire seed to form.
take care in watering. Do not allow to dry out; keep soil damp, but not wet.
give plants a balanced feeding after blooming season.
stake long spindly growth.

FERNS Ray Sodomka
water thoroughly — maintain humidity by wetting surrounding areas.
remove dead fronds.
plant spores.
use high-nitrogen fertilizer, liquid or pellets, twice a month.
spray for aphids and scale if necessary.

FUCHSIAS William Selby
watch for insects and pests. Spray or use a systemic eradicator. Use amount recommended by manufacturer, or less. Do not use an oil spray.
watch plants - if pruned 6 to 8 weeks ago, there should be loads of new growth. When this growth gets three or four sets of leaves, remove the outermost set. Continue to pinch until you have a full lush plant. Stop pinching 6 to 8 weeks prior to time you want blossoms.
keep containers clean inside and out.
turn baskets regularly so plants will not become one-sided.
remove all spent flowers, seed pods, old and misformed leaves.
water only as needed; do not overwater, but keep moist not wet.

GERANIUMS Carol Roller
water thoroughly when plants become relatively dry. Each watering should moisten the entire soil ball. Excess water should drain away. Keep foliage as dry as possible.
continue feeding a balanced fertilizer dissolved in water, using at less than the recommended strength. Use often enough to keep plants from developing nutritional deficiencies. Long-term pellets may be used instead.
continue pest and disease control using products according to the manufacturer's directions.
groom plants, removing discolored leaves and faded flowers.
avoid taking cuttings of regals (Martha Washingtons) and scenteds, since this is their flowering season. Cuttings may be taken from ivies and zonals, if desired.
protect tender plants from the sun, if the temperature is high.
continue to rotate plants on a regular basis in order to produce well-shaped plants.
enjoy your plants at the height of their season.

GESNERIADS Michael Ludwig
feed regularly — this is important to have a good plant later in the year.
be on alert for pests. Spray with a non-oil base spray to prevent leaf damage.
put cuttings down to increase your collection.
mist foliage in the morning and evening on hot days.
prolong the flowering season by keeping spent flowers picked off.
water in the evening, never in the morning on hot days.

IRIS
keep watering while still blooming.
keep Siberians damp, and feed for additional growth; use Camellia food.
feed Japanese with Camellia food in the water in which they are grown. Give plenty of water if not grown in pools.
feed Spurias with low-nitrogen fertilizer.
prepare beds for planting and transplanting tall-bearded after bloom. Work humus into soil plus some fertilizer before replanting.
allow cut surface of rhizomes to dry and to be exposed to sunlight several hours before replanting. May give a light dusting of soil sulphur on the wounds.

ORCHIDS Charlie Fouquette
avoid sudden temperature changes to keep bud-blast to a minimum.
maintain pest control against red spider, mealy-bug, and scale. Discuss your infestation with a capable orchid nurseryman.
spray and mist on hot dry days. Watch hot dry Santa-Ana winds.
start high-nitrogen feeding of cymbidiums and a complete fertilizer for phalaenopsis and cattleyas — dilute for seedlings and oncidium.
mist seedlings in mornings and early afternoon so they are dry by nightfall.
check outside plants and their potting mix; keep moist, but not wet.
be prepared to shade areas with heavy sunlight — use shadecloth or liquid plant shade on glass or clear fiberglass.
remember plants need air circulation. Air movement often means that plants dry out -compensate for any change in moisture or temperature. The weather dictates your actions, and the weather has been quite unpredictable this year.

ROSES Frank Hastings

feed with a balanced fertilizer once a month, watering the day before. Water in any dry fertilizer.

feed 3 tablespoons of liquid fish emulsion per gallon of water per bush two weeks after feeding dry balanced fertilizer.

apply liquid iron the last week of May.

spray weekly with Orthenex to prevent mildew and rust. Water the day before spraying to prevent leaf burns.

watch for spider mites which are almost invisible; leaves turn yellow, a dirty white sediment appears on under side of these leaves; thoroughly wash under every leaf with a jet spray of water to dislodge. This is a good practice to do weekly before spraying, as a preventative.

apply 2 shovelfuls of composted manure per bush in May to keep the bacteria in the soil active. Water the day before, and after applying.

disbud for one bloom to a stem on Hybrid Teas and Grandifloras.

keep spent blooms pruned.

water at least twice a week.

GREEN THUMB ITEMS

feed azaleas and cut out dead wood.

plant summer annuals for color.

plant gladiolus bulbs for fall blooms.

remove dried bulb foliage and tie back other foliage to allow to dry naturally before removing.

invest in blooming perennials available in June — Shasta daisies, agapanthus, daylilies, etc.

VEGETABLES

plant a vegetable garden. If you have no space in the ground, try growing them in containers and use some of the smaller vegetables, like the midget carrots and beets, radishes, petite growing cucumbers and cherry tomatoes.

mulch. This helps reserve soil moisture, smothers weeds, and makes for a much neater looking vegetable garden.

water tomatoes slowly and deep soak so that all the roots will be reached, give them a balanced fertilizer, and at least 8 hours of sunlight a day. Stake them for a better harvest.

decorate the vegetable garden with marigolds. It keeps the snails away. They don't like the musky fragrance of the foliage.

Geranium Show

By Pat Barrett

The San Diego Geranium Society will hold its 13th Annual Plant Show and Sale on May 14 & 15, 1988 at the Casa del Prado in Balboa Park, San Diego. The show will be held in Room 101 (Majorca Room) from 12 to 5 p.m. Saturday, and 10 a.m. to 5 p.m. on Sunday. The plant sale will be in the Courtyard from 10 a.m. to 5 p.m. on both days.

The show this year will be one of the biggest in the Society's history with 200 to 300 different types of geraniums on display. Represented will be species and scented leaves for the connoisseur; ivy leaved, zonal garden geraniums and everybody's favorite the Regal (Martha Washington pelargonium). Also displayed will be rare forms not commonly seen including the Deacon series of semi-dwarf plants; stellars with their unique flower and leaf shapes; dwarf geraniums from all three major groups; golden-leaf types that flower well in open shade; ornamental-leaved from all three major groups, and many novelty flower forms (carnation, tulip, dahlia, phlox, painted lady, quilled or cactus and rosebud). It is hoped that many of the above will be in the sale area.

The hybridizer display by Jim Minah was such a hit in the previous show that this year will include displays by hybridizers Monica Bennett, Ray Bidwell, Faye Brawner, Craig Hanson, Chuck Heidgen, Chuck Rager, Carol Roller, Kay Young, Jim Zemcik as well as Jim Minah. Also featured will be a very special display honoring two of our long time members, Fred and Alice Bode.

For further information regarding the show and plant sale contact Pat Barrett at (619) 442-2404.

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Salton City, CA 92275
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Bonita, 1:00 p.m.

CITY BEAUTIFUL OF SAN DIEGO, INC.
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4995 Fanuel Street
San Diego, CA 92109
1st Mon. S.D. Zoo, Rondavel Rm., 11:30 a.m.

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Pres: Mrs. Virginia Soderberg 582-7098
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San Diego, CA 92120
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Coronado, CA 92118
Twice annually at call of President,
1113 Adelia Ave., Coronado, 7:30 p.m.

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Mrs. John Watson 435-3315
311 Ocean Blvd.
Coronado CA 92118
4th Thurs., Coronado Library, 9:00 a.m.

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Mrs. Jay E. Adams 749-1979
27062 Banbury Drive
Valley Center CA 92082
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EAST COUNTY ROSE SOCIETY
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8124 Royal Park Lane
El Cajon, CA 92021-2183
1st Sun., various gardens, 2:00 p.m.

ESCONDIDO GARDEN CLUB
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1215 Amador Avenue
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San Diego, CA 92120
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LA JOLLA GARDEN CLUB
Pres: Mrs. Robert M. Boynton 481-0263
376 Bellaire Street
Del Mar, CA 92014
3rd Tues, La Jolla Woman's Cl., 1:30 p.m.

LAKE HODGES NATIVE PLANT CLUB
Pres: Doris Baur 487-6614
16516 Gabarda Road
San Diego, CA 92128
3rd Mon. Glendale Federal
Rancho Bernardo 3:00 p.m.

LA MESA GARDEN CLUB
Pres: May Pollock 444-4983
6325 Primrose Drive
La Mesa, CA 92042
3rd Thu 11 a.m., La Mesa Woman's Club
5220 Wilson Ave., La Mesa, CA

LAS JARDINERAS
Pres: Mrs. James Houck
2360 Presidio Drive
San Diego, CA 92103
3rd Mon., Home of members, 10:30 a.m.

LATE BLOOMERS
Co CH Cynthia Jackson
23500 Bell Bluff Truck Trail
Alpine, CA 92001
4th Tues., home of members 9:30 a.m.

MISSION GARDEN CLUB
Pres: Mrs. Vera Elmer 447-8029
1285 E. Washington Ave.
El Cajon, CA 92020
1st Wed. North Park Recreation
Center, San Diego. 1:30 p.m.

NORTH COUNTY ROSE SOCIETY
Pres: Mr. Dale Reece 757-5905
352 Leeward Court
Oceanside, CA 92054
222 Jefferson St., Vista, CA Fri. 7:00 p.m.

NORTH COUNTY SHADE PLANT CLUB
Pres: Mrs. Druscilla C. Luers 439-3677
1635 Mt. View Avenue
Oceanside, CA 92054
3rd Sat. Ecke Bldg., Quail Gardens
Encinitas, CA 1:00 p.m.

OHARA SCHOOL OF IKEBANA LA JOLLA
Pres: Mrs. Donald Davis 672-0128
11211 Del Diablo Street
San Diego, CA 92129

OHARA SCHOOL OF IKEBANA SAN DIEGO
Pres: Mrs. Walter Bourland 276-4667
2936 Havasupai
San Diego, CA 92117

ORGANIC GARDEN CLUB, SAN DIEGO
Pres: Mr. John E. Miller 460-8756
10836 Calle Verde Drive
La Mesa, CA 92041
3rd Fri., Rm 104, Casa del Prado 7:30 p.m.
Every 2 months starting Jan.

PACIFIC BEACH GARDEN CLUB
Pres: Mrs. Lila M. Elder 692-3171
836 West Pennsylvania No. 202
San Diego, CA 92103
2nd Mon. Sept. thru Jun., 1:00 p.m.
Pacific Beach Community Center

PALOMAR CACTUS AND SUCCULENT SOCIETY
Pres: Mr. Gene Eisenberg 487-1051
17592 Corbel Court, San Diego, CA 92128
4th Sat. Joslyn Senior Center
724 N. Broadway, Escondido 12:45 p.m.

PALOMAR DISTRICT CALIFORNIA GARDEN CLUBS, INC.
Pres: Mrs. James Valana 421-6504
4112 Country Trails
Bonita, CA 92002

PALOMAR ORCHID SOCIETY
Pres: W.T. Mawhiney 439-9399
1565 Wilshire Road, Fallbrook, 92028
2nd Fri. Vista Senior Citizens Ctr. 7:30 p.m.

POINT LOMA GARDEN CLUB
Pres: Myrna Hines 222-2299
935 Armada Terrace
San Diego, CA 92106
2nd Wed., Sept--Jun, 3598 Talbot at Canon
Westminster Presbyterian Church, 10 a.m.

PROFESSIONAL WOMEN'S HORTICULTURE AND LANDSCAPE ASSOCIATION (PWHLA)
Pres: Tineke Wilders 294-8097
Box 3424, San Diego, CA 92103
4th Wed., Jan., Mar., May, Sep
1st Wed., Nov.
Call 753-1545 for further details

QUAIL BOTANICAL GARDENS FOUNDATION, INC.
Pres: Mr. Richard Poedtke 758-8332
1709 Montgomery Drive
Vista, CA 92083

RANCHO SANTA FE GARDEN CLUB
Pres: Mr. John Rainsford
Hort. Ch: Corrine Gruenwald
P.O. Box 1696
Rancho Santa Fe, CA 92067
2nd Tues., Rancho Santa Fe Garden Club
Avenida de Acadias, Rancho Santa Fe
7:30 p.m.

SAN CARLOS GARDEN CLUB
Pres: Mrs. B.G. Burke 697-4478
8481 Beaver Lake Drive
San Diego, CA 92119
4th Tues. Home of members, 9:30 a.m.

SAN DIEGO ASSOCIATION OF PROFESSIONAL HORTICULTURISTS
Pres: Charles Olson 222-9476
P.O. Box 34341
San Diego, CA 92103
4th Mon., Casa del Prado Rm 104, 7:30 p.m.

SAN DIEGO BONSAI CLUB INC.
Pres: Mr. Wayne Chapman 755-4451
P.O. Box 40037
San Diego, CA 92104, 11 a.m. Workshop
2nd Sun., Casa del Prado, 1:00 p.m.

SAN DIEGO BOTANICAL GARDEN
Dr. Herbert A. Markowitz 224-8552
876 Armada Terrace
San Diego, CA 92106

SAN DIEGO BROMELIAD SOCIETY
Pres: Pam Keide 438-9393
6523 El Camino Real
Carlsbad, CA 92009
2235 Galahad Rd., Serra Mesa, 7:45 p.m.
1st Thurs. Byzantine Catholic Church

SAN DIEGO CACTUS & SUCCULENT SOCIETY
Pres: Mr. Martin Mooney 427-6796
97 K Street, Chula Vista, CA 92011
2nd Sat. Casa del Prado, 1:30 p.m.

SAN DIEGO CAMELLIA SOCIETY
Pres: Cynthia Drake 271-8933
11121 Saunders Court
San Diego, CA 92131
3rd Wed., Casa del Prado, 7:30 p.m.

SAN DIEGO COUNTY BRANCH NATIONAL FUCHSIA SOCIETY
Pres: Ted Garrett 753-2665
498 La Costa Avenue
Leucadia, CA 92024
2nd Thurs. Palmquist School
1999 California St., Oceanside 7:00 p.m.

SAN DIEGO COUNTY DAHLIA SOCIETY
Pres: Leslie Pickford 278-1083
5350 Via Bello, San Diego, CA 92111
4th Tues. except Jul & Dec., Casa del Prado

SAN DIEGO COUNTY HERB SOCIETY
Pres: Mrs. Eleanor Kimes 484-3653
13021 Trail Dust Avenue
San Diego, CA 92129
2nd Sat. except Jan, Jul & Aug, 11 a.m.
Homes of Members

SAN DIEGO COUNTY ORCHID SOCIETY
Pres: Genie Hammond 426-6831
1341 Park Drive
Chula Vista, CA 92011
1st Tues., Casa del Prado, 7:30 p.m.

SAN DIEGO DAYTIME AFRICAN VIOLET SOCIETY
Pres: Beverly Decker 469-9975
7430 Stanford Ave., La Mesa, CA 92041
2nd Mon., Fellowship Hall, Christ United
Methodist Church, 3295 Meade, 12 noon

SAN DIEGO EPIPHYLLUM SOCIETY
Pres: Mr. Milton D. Turner 224-0955
2674 Willow Street
San Diego, CA 92106
2nd Wed., Casa del Prado, 7:30 p.m.

SAN DIEGO FERN SOCIETY
Pres: Bob Halley 272-1019
1714 Maiden Street
San Diego, CA 92109
3rd Thurs., Casa del Prado, 7:30 p.m.

SAN DIEGO FUCHSIA & SHADE PLANT SOCIETY
Pres: Mr. Bob Matlock 423-0213
1333 New Chatel Drive
San Diego, CA 92154
2nd Mon., Casa del Prado, 7:30 p.m.

SAN DIEGO GERANIUM SOCIETY
Pres: Mr. Jim Zemcik (714) 551-3264
15442 Orleans Circle
Irvine, CA 92714
2nd Tues., Casa del Prado, 7:30 p.m.

SAN DIEGO GESNERIAD SOCIETY
Ariel Madden 299-5415
211 West Walnut Ave. #6
San Diego, CA 92103
3rd Wed. St. David's Parish Hall
5050 Milton St. 7:30 p.m.

SAN DIEGO/IMPERIAL COUNTIES IRIS SOCIETY
Pres: Dorothy Driscoll 463-6700
6338 Lake Athabaska Place
San Diego, CA 92119

SAN DIEGO ROSE SOCIETY
Mrs. Rita Applegate 463-3555
3976 Agua Dulce Blvd.
La Mesa, CA 92041
3rd Mon Oct thru Jun, Casa del Prado

SAN DIEGUITO GARDEN CLUB
Pres: Mrs. Hans (Pam) Kaspar 753-4087
1905 Hummock, Encinitas, CA 92024
4th Wed., Ecke Family Bldg.
Quail Gardens, Encinitas, 10 a.m.

SAN MIGUEL BRANCH AMERICAN BEGONIA SOCIETY
Pres: Mrs. Toni Baker 582-7516
6475 50th Street, San Diego, CA 92120
1st Wed., Casa del Prado, Rm. 104, 7:30 p.m.

SOGETSU SCHOOL OF IKEBANA
Pres: Mrs. Leroy Lahey 429-6198
2829 Flax Drive, San Diego, CA 92154

SOUTHWEST GROUP, JUDGES COUNCIL
Pres: Mrs. David W. Hoke 436-9462
335 Avenida de las Roses
Encinitas, CA 92024
1st Wed., Casa del Prado, 10:00 a.m.

SOUTHWEST HEMEROCALLIS SOCIETY
Pres: Mr. C.R. Bowman 273-7937
3927 Sequoia St., San Diego, CA 92109
1st Sat., Feb., Apr., Jun., Sep., Nov.
10 a.m. Quail Gardens Meeting Room
Quail Gardens Rd., Encinitas

SUN HARBOR BRANCH NATIONAL FUCHSIA SOCIETY
Pres: Barney Gonsalves 222-4254
4103 Tennyson St., San Diego, CA 92107
4th Wed. Recreation Hall, Holy Trinity
Church, 2083 Sunset Cliffs Blvd.,
Ocean Beach

THE VILLAGE GARDEN CLUB OF LA JOLLA
Pres: Dorothy C. Carroll 578-1484
8304 Hydra Lane, San Diego, CA 92126
4th Thurs., Sept. thru May, 1:00 p.m.
La Jolla United Methodist Church
6063 La Jolla Blvd, La Jolla

THE VISTA GARDEN CLUB
Pres: Mrs. Robert Hendenberg 724-5032
4809 Ceanothus Place
Oceanside, CA 92056
1st Fri., at 222 Jefferson St., Vista
Senior Service Center, 12 noon

THE WATER LILY SOCIETY
Pres: Norman Bennett (301) 662-2230
c/o Charles B. Thomas, Secretary
P.O. Box 104
Buckeystown, MD 21717-0104
Meeting

PROFESSIONAL AFFILIATES

BLOOMERS
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P.O. Box 353
La Jolla, CA 92038

CLASSIC GARDENS
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P.O. Box 2711
La Jolla, CA 92038

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3130 Browning St., San Diego, CA 92106

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461-7732
7964 High St., La Mesa, CA 92041

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4351 Piper St., San Diego, CA 92117

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1701 South Palm Canyon Drive
P.O. Box 851
Palm Springs, CA 92264

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Cheryl Hedgpeth (619) 299-3010
2707 Congress St., Suite 1 H
San Diego, CA 92110

SUNSHINE GARDENING
Ken Fernandes (619) 224-1930
3021 McCall, San Diego, CA 92106

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Shirley Marcoux 748-1849
13022 Carriage Road
Poway, CA 92064

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